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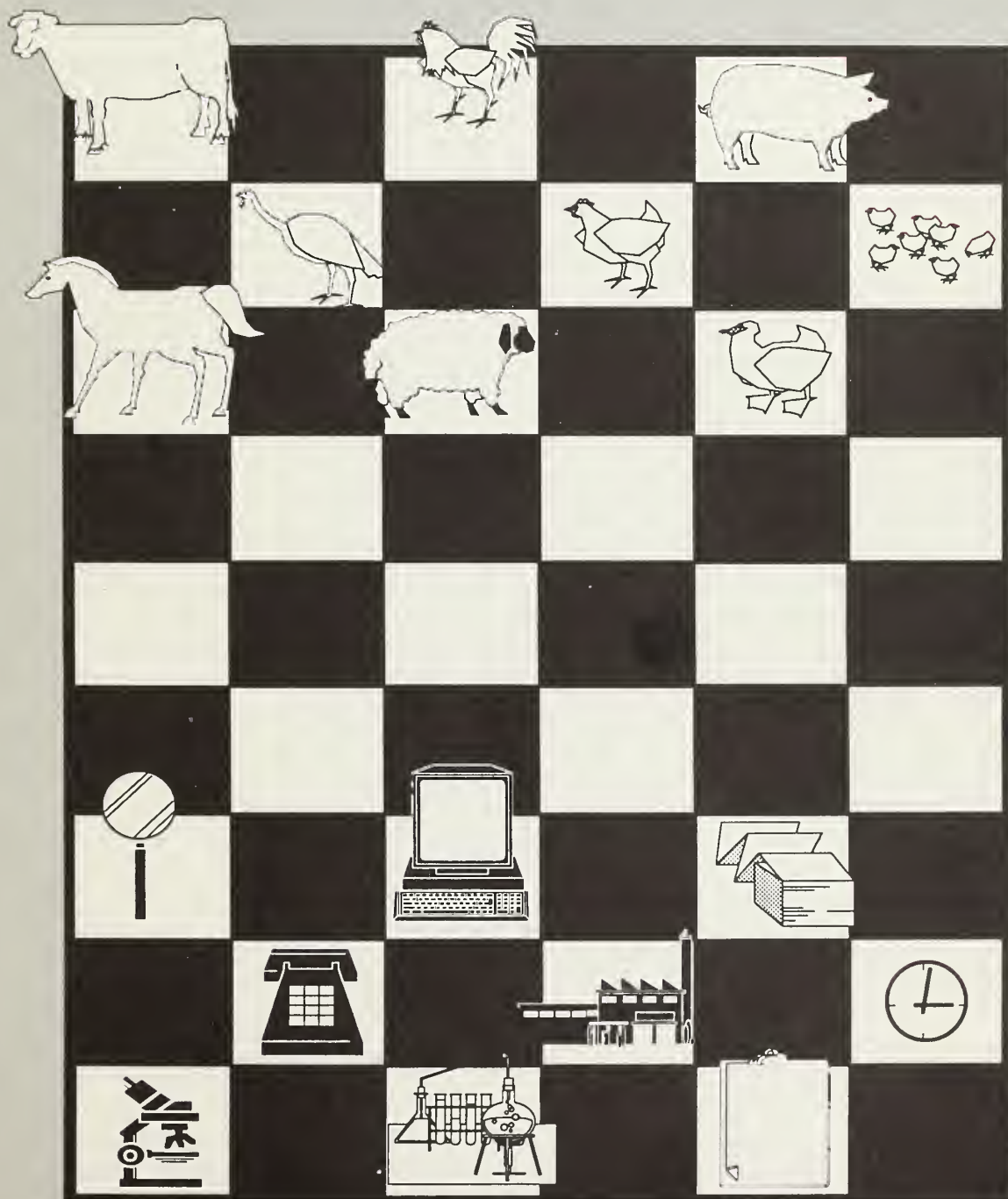
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March 1, 1989

Meat and Poultry Inspection, 1988

Report of the Secretary of Agriculture to the U.S. Congress



Preface

The Food Safety and Inspection Service (FSIS) of the U. S. Department of Agriculture (USDA) administers a comprehensive system of inspection laws to ensure that meat and poultry products moving in interstate commerce for use as human food are safe, wholesome, and accurately labeled. FSIS strives to provide this vital consumer protection service at the least possible cost to the American taxpayer.

This report summarizes initiatives and accomplishments; domestic and export inspection activities; and foreign program review and import inspection activities during the past year.

Information about domestic and export inspection is presented on a fiscal year basis to complement the congressional budget process. Information on review of foreign inspection systems and import inspection is presented on a calendar year basis, as required by law.

The first section of this report describes the organizational structure and responsibilities of FSIS.

The second section describes steps FSIS has taken to improve the efficiency and effectiveness of the inspection program and to better protect the public health.

The third section statistically summarizes domestic and export inspection activities for fiscal year 1988 (October 1, 1987, through September 30, 1988).

The fourth section statistically summarizes FSIS review of foreign inspection systems and import inspection activities for calendar year 1988.

This annual report to the Committee on Agriculture of the U. S. House of Representatives and to the Committee on Agriculture, Nutrition, and Forestry of the U. S. Senate is submitted as required by sections 301 (c) (4) and 20 (e) of the *Federal Meat Inspection Act*, as amended (21 U. S. C. 661 and 21 U. S. C. 620); and sections 27 and 5 (c) (4) of the *Poultry Products Inspection Act*, as amended (21 U. S. C. 470 and 21 U. S. C. 454).

Questions about this report or about FSIS may be directed to the Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, D.C. 20250.

Foreign Countries and Plants Certified to Export Meat and Poultry to the United States is presented to Congress as an addendum to this publication. It is available from FSIS upon request.

Inspection Horizons: Food Safety and Inspection Service Long Range Plan FY 1989-1993 is available from the Policy and Planning Staff, Food Safety and Inspection Service, U.S. Department of Agriculture, Room 105 Annex, Washington, D.C. 20250.

Contents

<i>Preface</i>	i
<hr/>	
Organization and Responsibilities--	
Food Safety and Inspection Service	1
Meat and Poultry Inspection Operations	2
Meat and Poultry Inspection Technical Services	3
International Programs	4
Science	5
Units in the Office of the Administrator	6
<hr/>	
Initiatives and Accomplishments	9
Inspection Modernization	9
Residue Prevention	11
Efforts to Control Microbiological Contamination	12
Education and Information	14
Scientific Initiatives	15
Labeling	16
Enforcement Actions	16
Advisory Committee on Meat and Poultry Inspection	17
International Trade Issues	18
Ensuring Safe Imports and Exports	19
<hr/>	
Domestic and Export Inspection	21
Federally Inspected Plants	21
Federally Inspected Livestock, Poultry and Products	24
Animal Carcasses Condemned	26
Compliance Activities	26
Scientific Sampling and Analysis	27
Labels Reviewed	27
Facilities and Equipment Reviewed	27
Inspection Training	28
State Inspection Programs	28
Major Receivers of U.S. Meat and Poultry Exports	29
Changes in U.S. Meat and Poultry Exports	31
<hr/>	
Foreign Program Review and Import Inspection	33
Plants Authorized to Export to the United States	35
Residue Testing Data from Countries Exporting to the United States	36
Volume and Types of Products Imported into the United States	36
Products Passed for Entry by Category	37
Products Refused Entry by Category	40

List of Figures and Tables

Figure Number	Table Number	Title	Page Number
1-1		Organizational Structure of the Food Safety and Inspection Service	1
1-2		Meat and Poultry Inspection Regions and Area Offices	3
3-1		Number of Federally Inspected Plants and Inspectors by Location	21
	3-2	Number of Federally Inspected Meat, Poultry, and Combination Meat and Poultry Plants by Location	22
	3-3	Numbers and Types of Plants Operating Under Federal Inspection as of September 30, 1988	23
	3-4	Talmadge-Aiken Plants	23
3-5	3-5	Livestock Federally Inspected	24
3-6	3-6	Poultry Federally Inspected	24
3-7	3-7	Processed Meat and Poultry Products Federally Inspected	25
	3-8	Animal and Poultry Carcasses Condemned	26
	3-9	Enforcement Actions	26
	3-10	Laboratory Samples Analyzed	27
	3-11	Labels Reviewed	27
	3-12	Facilities and Equipment Reviewed	27
	3-13	Inspection Training	28
	3-14	Dates USDA Assumed Intrastate Inspection	28
	3-15	State Inspection Program	29
3-16		Major Receivers of U.S. Meat Exports	29
3-17		Major Receivers of U.S. Poultry Exports	30
	3-18	Change in Meat Exports	31
	3-19	Change in Poultry Exports	32
	4-1	Foreign Plants Authorized to Export Products to the United States and Number of Inspectors	35
	4-2	Foreign Countries Residue Testing Data	36
4-3		Volume and Sources of Products Imported into the United States	36
4-4		Types of Products Imported into the United States	37
	4-5	Products Passed for Entry into the United States	37
	4-6	Products Refused Entry into the United States	40
	4-7	Reasons for Product Rejection	42

Organization and Responsibilities of the Food Safety and Inspection Service

The Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture (USDA) administers a comprehensive system of inspection laws to ensure that meat and poultry products moving in interstate and foreign commerce for use as human food are safe, wholesome, and accurately labeled.

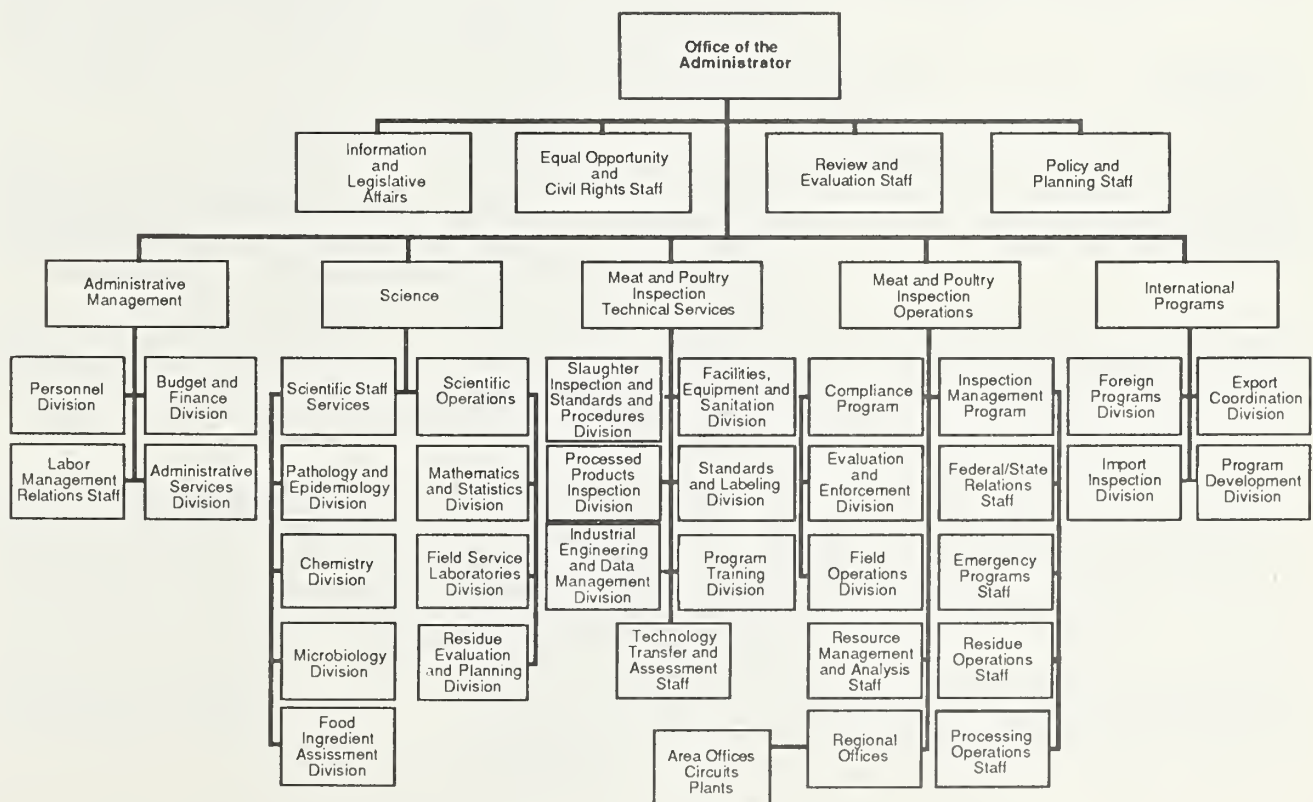
The organizational structure of FSIS is shown in figure 1-1. Of the Agency's five major programs, four are directly involved in inspection and supportive activities: Meat and Poultry Inspection Operations, Meat and Poultry Inspection Technical Services, International Programs, and Science. The fifth program, Administrative Management, oversees budget and finance, personnel, administrative, and labor-management relations functions. Each program is headed by a Deputy Administrator who reports to the Administrator of FSIS.

FSIS carries out USDA's responsibilities under the authority of the Federal Meat Inspection Act and the Poultry Products Inspection Act. These laws protect consumers by ensuring that meat and poultry products are wholesome, unadulterated, and properly marked, labeled, and packaged. The laws also protect packers by ensuring that no one gains an unfair economic advantage by putting unwholesome or misbranded products on the market.

FSIS interacts with other agencies within USDA, such as the Agricultural Research Service, the Agricultural Marketing Service, the Animal and Plant Health Inspection Service, the Economic Research Service, and the National Agricultural Statistics Service. FSIS also maintains relationships with other Federal agencies with food safety responsibilities, notably the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA).

Figure 1-1

Organizational Structure of the Food Safety and Inspection Service



Meat and Poultry Inspection Operations

Meat and Poultry Inspection Operations (MPIO) oversees the inspection of all meat and poultry plants in the United States, directs the Agency's compliance activities, administers the Federal-State cooperative inspection program, oversees residue monitoring operations in plants, and coordinates FSIS actions for handling emergency contamination problems.

Within MPIO, there are two major programs--Inspection Management and Compliance--as well as the Resource Management and Analysis Staff, and five Regional Offices.

Inspection Management Program

Emergency Programs Staff

The Emergency Programs Staff coordinates FSIS actions in response to residue, microbiological, and other contamination problems. When appropriate, this staff seeks voluntary recalls by firms whose products are suspected of being adulterated or misbranded.

Federal-State Relations Staff

The Federal-State Relations Staff assures that State inspection programs enforce requirements at least equal to those of Federal inspection. State-inspected plants may sell their products only within the State. This staff also gives technical assistance to plants operating under the Talmadge-Aiken Act, which established cooperative agreements permitting State employees to carry out inspection in federally inspected plants

Residue Operations Staff

The Residue Operations Staff directs the Agency's in-plant residue monitoring programs and oversees product sampling for residue testing.

Processing Operations Staff

The Processing Operations Staff develops, coordinates, and implements a broad range of activities designed to ensure the uniform interpretation and application, nationwide, of procedures and regulations governing the inspection of processed meat and poultry products.

Compliance Program

Evaluation and Enforcement Division

The Evaluation and Enforcement Division investigates violations of the inspection laws; controls violative products through detentions, civil seizures, and voluntary recalls; and helps assure that appropriate criminal, administrative, and civil sanctions are carried out.

Field Operations Division

The Field Operations Division provides primary regulatory control over businesses engaged in transporting, storing, and distributing meat and poultry products after they leave federally inspected plants.

Resource Management and Analysis Staff

The Resource Management and Analysis Staff plans and reviews the allocation of MPIO's financial and human resources. The staff also coordinates the development of automated systems to facilitate both inspection and resource management.

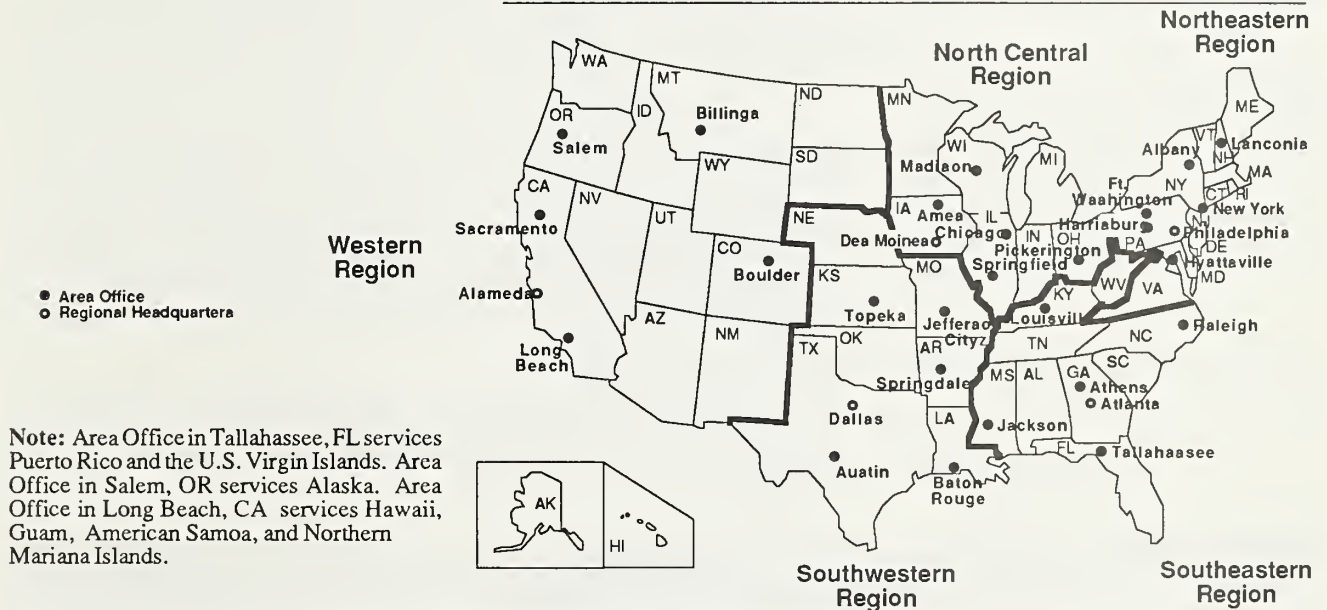
Regional Offices

Inspection activities are carried out by a network of five regional offices, 26 area offices, and 189 inspection circuits. Each region is managed by a regional director who reports to the Deputy Administrator of MPIO. As shown in figure 1-2, there are five or six area offices within each region.

Each area office is managed by an area supervisor who reports to a regional director. Within each area are several inspection circuits, each managed by a circuit supervisor. Circuit supervisors oversee the inspectors-in-charge of the plants within their circuits.

Figure 1-2

Meat and Poultry Inspection Regions and Area Offices



Meat and Poultry Inspection Technical Services

Meat and Poultry Inspection Technical Services (MPITS) performs much of the developmental and experimental work that serves as the basis for refining and modernizing inspection standards and procedures.

Facilities, Equipment, and Sanitation Division

The Facilities, Equipment, and Sanitation Division develops standards for plant facilities, equipment, and sanitation programs to help ensure sanitary and wholesome products. This division also approves drawings of and specifications for meat and poultry facilities and equipment before they are used in federally inspected plants.

**Industrial Engineering and
Data Management Division**

The Industrial Engineering and Data Management Division conducts work measurement studies used in developing more efficient inspection methods and work place design and in determining staffing needs. This division also develops and manages Agency automated information systems and operates the FSIS computer facilities.

**Processed Products
Inspection Division**

The Processed Products Inspection Division establishes industry operating requirements and inspection procedures for ensuring that processed meat and poultry products are safe, wholesome, and unadulterated.

Slaughter Inspection Standards and Procedures Division

The Slaughter Inspection Standards and Procedures Division develops regulations and standards for use in plants slaughtering meat animals and poultry. This division designs, tests, and helps implement efficient, cost-effective procedures for the ante-mortem and post-mortem inspection of animals.

Program Training Division

The Program Training Division located in Denton, Texas, plans and develops all technical training policies, programs, and activities for FSIS.

Standards and Labeling Division

The Standards and Labeling Division reviews and approves labels for federally inspected domestic and imported meat and poultry products. This division develops formal product standards of identity and composition and determines that ingredients are safe and appropriate for the products in which they are used.

Technology Transfer and Assessment Staff

The Technology Transfer and Assessment Staff evaluates emerging scientific, technological, and industrial research from a network of U.S. and international sources. This staff assesses research findings and transfers selected information to the appropriate FSIS programs.

International Programs

International Programs (IP) carries out requirements of the Federal meat and poultry inspection laws to assure the wholesomeness of imported meat and poultry products. IP reviews foreign inspection systems to assure that they are equal to the U.S. system, conducts reinspection of imported meat and poultry products entering U.S. commerce, represents U.S. interests throughout the world to minimize regulatory impediments to trade in meat and poultry products, and coordinates the inspection and certification of meat and poultry products for export abroad.

IP handles liaison activities with other Federal agencies involved in international policy development and with industry representatives involved in domestic and international trade in meat and poultry products.

Foreign Programs Division

The Foreign Programs Division assures that meat and poultry imports have been produced under inspection systems equivalent to that of the United States and that the products meet U.S. requirements. This is accomplished by regularly evaluating the effectiveness of each eligible country's inspection system controls in the following risk areas: disease, residues, contamination, processing, and economic fraud. The frequency of the evaluations is determined by prior history, product diversity, system complexity, and risk area evaluations.

Import Inspection Division

The Import Inspection Division assures that imported meat and poultry products are properly certified and meet U.S. standards when presented at the port of entry for reinspection. A computer-assisted system guides the sampling of imported products for reinspection, and the data gathered are used to determine subsequent sampling of products from a particular country and plant. These data also supplement information developed by the Foreign Programs Division to evaluate foreign inspection systems. A product that does not meet U.S. requirements is refused entry into this country. The product may be returned to the exporting country, destroyed, or converted to animal food.

Program Development Division

The Program Development Division provides technical guidance and analytical support for International Programs. This division conducts policy studies, coordinates planning functions, designs and tests new procedures, and develops issuances and regulations to implement current policy. It also manages information resources and data systems operations for IP, and oversees the operation, development, and

maintenance of the Automated Import Information System and other computer-assisted systems. The Division coordinates the review and evaluation of new foreign country applications for eligibility to export product to the United States.

Export Coordination Division

The Export Coordination Division facilitates the export of U.S. meat and poultry products. This division maintains liaison with over 70 foreign inspection programs. Division officials meet with foreign government officials about foreign country requirements that differ from those of the United States. The division also assists the U.S. meat and poultry industry in exporting to foreign markets by helping to resolve potential differences in the interpretation of requirements. It plans and coordinates reviews of U.S. plants by foreign officials.

Science

The Science Program provides analytical support and scientific guidance to the inspection programs. Science's services are designed to assure that meat and poultry products are safe from disease, harmful chemicals, and toxins. Laboratory analysis enables FSIS to detect problems such as preparation under nonsanitary conditions or the substitution of less desirable ingredients for those required in a particular product.

In carrying out its responsibilities, Science cooperates with other Federal agencies such as FDA, EPA, and the Centers for Disease Control; and with State and local health authorities. It develops and maintains close ties with national and international scientific communities in order to keep abreast of scientific and technological advances and to open new avenues for the exchange of scientific information.

Within the Science Program, services are divided between two staffs—Scientific Staff Services and Scientific Operations.

Scientific Staff Services

Pathology and Epidemiology Division

The Pathology and Epidemiology Division develops the pathology, epidemiology, and serology programs that support meat and poultry inspection. It provides laboratory and investigative services, studies infectious agents associated with food, and develops serological tests for infectious and toxic agents found in meat and poultry products. This division operates the Meatborne Hazard Control Center, which investigates reports of potential health hazards in meat or poultry products.

Chemistry Division

The Chemistry Division directs the development and improvement of practical analytical procedures for detecting adulterants and chemical residues in meat and poultry products. This division directs the performance of highly complex chemical analyses in field laboratories, coordinates an accredited laboratory program, and reviews chemistry field service laboratories to assure the quality and integrity of analytical results. In addition, the Chemistry Division represents the Agency when evaluating analytical procedures that have been submitted to FDA for New Animal Drug Applications (NADA).

Microbiology Division

The Microbiology Division provides technical support to the FSIS meat and poultry inspection program and advises other Federal, State, and local agencies. This division develops economical and efficient analytical screening methods for use in laboratories, in plants, and on the farm. The Microbiology Division also plans and maintains a

microbiological monitoring and surveillance program, and carries out special investigations on the safety and quality of products and processes.

***Food Ingredient
Assessment Division***

The Food Ingredient Assessment Division provides evaluative support, planning, and guidance in the scientific areas of nutrition and product safety. This division evaluates the chemical safety of packaging materials and chemical compounds.

Scientific Operations

***Residue Evaluation and
Planning Division***

The Residue Evaluation and Planning Division provides planning for the FSIS role in controlling drugs and other chemical residues that may occur in meat and poultry products. This division develops an annual plan for the sampling and residue testing of domestic and imported meat and poultry products. It also provides planning for residue avoidance programs involving producers and official establishments. The Division compiles, evaluates, and publishes annual data from the National Residue Program.

***Field Service
Laboratories Division***

The Field Service Laboratories Division is a network of laboratories strategically located to provide analytical support to FSIS activities. The laboratories are located in Athens, GA; St. Louis, MO; and Alameda, CA. FSIS augments the analytical capacity of these laboratories by contracting with accredited State and private laboratories.

***Mathematics and Statistics
Division***

The Mathematics and Statistics Division provides mathematical and statistical support for the inspection program. This division assists in the design, summary, and interpretation of data developed within the Agency; and advises other staffs on the validity and application of statistical conclusions.

**Units in the Office of the
Administrator**

Policy and Planning Staff

The Policy and Planning Staff facilitates the development and documentation of Agency policy, and coordinates Agency planning. This staff conducts studies for the Administrator and for individual program offices; oversees the development of Agency regulations; and conducts regulatory reviews. The Policy and Planning Staff also performs an Agency secretariat function, which includes providing Freedom of Information and Privacy Act services, and coordinates FSIS emergency preparedness functions.

Review and Evaluation Staff

The Review and Evaluation Staff assesses the effectiveness of the inspection program. The staff prepares summary reports and special analyses of review results; serves as Agency liaison to the General Accounting Office and Office of Inspector General on audit activities; carries out special reviews and evaluations; and makes policy recommendations to enhance the effectiveness of FSIS programs.

***Equal Opportunity
and Civil Rights Staff***

The Equal Opportunity and Civil Rights Staff provides support for administration of Titles VI and VII of the Civil Rights Act of 1964 and other applicable laws and regulations. The staff develops policies, evaluates program effectiveness, and assists in the achievement of FSIS objectives.

***Information and
Legislative Affairs
Staff***

The Information and Legislative Affairs Staff communicates with the public, Congress, other Government agencies, the media, and FSIS personnel about FSIS policies, programs, and activities. The staff directs a comprehensive public information and education program on issues such as food safety and labeling.

The staff operates the toll-free **Meat and Poultry Hotline** (1-800-535-4555; 447-3333 in the Washington, D.C., metropolitan area). It also develops and distributes written and audiovisual materials for a variety of audiences and serves as congressional liaison for the Agency.



Initiatives and Accomplishments

During 1988, FSIS continued to improve the U.S. meat and poultry inspection system by developing and implementing better methods to protect the public health.

Major accomplishments included: a proposal for a risk-based inspection program for processed products, an intensified program to detect and prevent sulfamethazine residues in pork, a pilot project to test methods for controlling microbiological contamination in poultry, a pilot test of a Food Safety Hotline with FDA, developing a rapid test for chloramphenicol, and developing modified reinspection procedures for Canadian products under the bilateral trade agreement.

Inspection Modernization

Improved Processing Inspection

Public Law 99-641, the "Futures Trading Act of 1986," amended the Federal Meat Inspection Act (FMIA), by authorizing USDA to determine the manner and frequency of inspection in federally inspected processing establishments. In 1988, FSIS made significant progress toward implementing the new law. Building on improvements of the last decade, the Agency devised new procedures that tailor inspection to the risks posed by individual plants. Some changes have already been implemented, and more will follow after regulations are adopted. The Agency's goal is an efficient, objective system of inspection and enforcement that is uniformly applied.

On November 4, FSIS published a proposed regulation to implement the new law. The proposed new system was carefully planned and tested. Over an 18-month period, three pilot tests were conducted in different parts of the country in a variety of processing operations. The first pilot, in Tennessee in 1987, tested periodic inspection in plants with good records of compliance with regulations.

The second pilot, which ran from February to April 1988, included 48 plants in the Chicago metropolitan area. It further tested a basic premise of P.L. 99-641 that inspectors do not need to be in plants on a daily basis if those plants have a good history of complying with Federal regulations. It also tested the feasibility of forming inspection teams instead of having inspectors assigned to specific plants. A new computer system generated schedules whereby inspectors from teams were randomly selected to perform inspection assignments. Visits to the plant also were randomly scheduled.

In the Chicago pilot, the Agency found that having less than daily visits can free up inspection staff to meet other needs, such as intensified coverage of problem plants. Reviews conducted before, during, and after the pilot showed fewer problems concerning plant performance at the end of the pilot than at the beginning. The test confirmed that periodic inspection can function effectively.

The third pilot, conducted from June through August 1988, in North Carolina and South Carolina, included a wide geographical area with urban and rural locations, plants with double shifts, as well as processing operations in plants which also slaughtered animals. The pilot identified needed improvements which were incorporated into implementation plans. It showed that the basic system is effective, with plant compliance improving during the test period.

New regulations must be in place before the Agency can vary the frequency of inspection in processing plants. However, many of the

improvements tested in the pilots require no regulatory changes and, therefore, can be put in place before new rules are final. Implementation of these changes through the new "Performance Based Inspection System (PBIS)" should pave the way for improved processing inspection after regulatory changes are made.

Beginning in September, inspectors were trained in PBIS, and USDA officials met with plant officials and industry leaders to explain the new system. PBIS has several new inspection tools. For example, the "Inspection System Guide" defines inspection tasks for all types of processes performed in plants. Using the Guide, inspectors and supervisors prepare a plan of inspection for each plant, based on its characteristics and the processes it performs. Inspection tasks are prioritized based on risks. For example, cleanliness of meat-cutting equipment must be checked more frequently than acceptability of storage of packaging materials.

A thorough recordkeeping system is another key improvement in PBIS. It helps meet the statutory requirement that FSIS consider a plant's compliance history in assigning inspectors. Data on the plant and inspection plans are fed into the computer, and weekly inspection schedules are generated for each plant. During visits, which are still made daily, inspectors rate plant performance for each task, noting whether it is acceptable or deficient. The automated data processing system generates subsequent assignments based on inspection findings.

A newly developed deficiency classification guide helps inspectors rank the seriousness of deficiencies. FSIS is building each processing plant's history of compliance. After regulations are in place, that history will form a basis for deciding the frequency of inspection for each plant and for targeting resources within each plant to focus on any problem areas.

Building the new system is a large undertaking, but one that is expected to pay dividends in terms of strengthening the Agency's ability to make the best use of resources to ensure that meat and poultry products are safe, wholesome, and accurately labeled.

Streamlined Inspection System for Cattle Proposed

In November, FSIS published a proposal for the streamlined inspection system (SIS) for cattle. This system, like other new inspection programs, is based on preventing problems by monitoring the entire manufacturing process rather than just detecting unacceptable products at the end of the line.

The proposed system would enable inspectors to focus on detecting animal diseases and contamination. Inspection efficiency would be increased by eliminating unnecessary tasks, combining others, and shifting quality control tasks--such as sorting carcasses and parts for aesthetic defects--to plant employees. A statistical sampling method would be used to ensure that products are wholesome and properly trimmed.

The system would modernize inspection procedures in all plants that slaughter more than 57 head of cattle per hour. Plants that slaughter more than 275 head per hour would be required to operate a quality control program. In plants without a quality control system, inspectors would take product samples from critical control points throughout the production process. Critical control points are those stages vital to assuring a wholesome and safe product.

Under the proposed system, FSIS would issue guidelines for uniform presentation of carcasses and parts for inspection. This would allow inspectors to detect abnormalities quickly and easily.

USDA veterinarians and inspectors would still be responsible for determining whether carcasses and parts are wholesome for human food. The inspector could also take and examine unplanned samples, notify the plant supervisor of problems that require correction, or temporarily slow or stop the slaughter operation until problems are corrected.

FSIS began developing the streamlined inspection system for cattle in 1979, and full-scale pilot testing started in 1984. It is now being tested at five plants.

New Procedures to Detect Osteomyelitis in Turkeys

In August, FSIS implemented a new policy for inspecting and handling turkeys suspected of being affected with the osteomyelitis complex. This is a condition that causes inflammation of the bone, sometimes extending to the surrounding soft tissue. The exact risk to public health has not yet been established, but *Staphylococcus* and *E. coli* bacteria have been found in osteomyelitis lesions. The new inspection procedures concentrate on removing any unwholesome tissue, thus protecting the public health while FSIS gathers more information about the problem.

To implement the policy, a new training strategy was used. Videotapes showing the new procedures were sent to about 100 turkey slaughter plants. This was the first time that videotapes for inspection personnel and plant employees were part of an implementation strategy.

FSIS Terminates Intrastate Inspection of Meat and Poultry Products In Montana

In 1988, the State of Montana once again began conducting its own inspection of meat and poultry products produced and sold within Montana.

The decision to terminate Federal inspection of these products was made after the Governor of Montana advised FSIS that the State would conduct its own inspection program, and FSIS determined that Montana's inspection program was equal to Federal inspection. Federal inspection continues at Montana meat and poultry plants producing products for interstate commerce.

Residue Prevention

Response to the Sulfamethazine Problem

In February, a study by the National Center for Toxicological Research linked the drug sulfamethazine to thyroid gland tumors in mice. FSIS moved quickly to control illegal sulfamethazine residues in pork. As a result of the Agency's actions, residue violations have decreased.

In March, FSIS began to test muscle tissue from pigs slaughtered at the 100 largest plants, representing about 98 percent of domestic hog slaughter. This program continued until the Agency completed phasing in use of a new quick test developed by Agency scientists—the Sulfon-Site (SOS) test. While laboratory test results took up to 2 weeks to complete, the SOS results were available in a matter of hours.

Any sulfamethazine residue level above 0.1 parts per million in muscle tissue of hogs is a violation. In the muscle testing program, 29 violations were found in the 1,618 samples collected. In the SOS

program, which was fully implemented in May, 52,039 hogs were tested, and 266 violations found. The violation rates for sulfamethazine in market hogs obtained from the national residue monitoring program for the first and second quarter of calendar year 1988 were 1.94 percent and 0.65 percent respectively. The rates for these two quarters were clearly lower than the rate of 3.63 percent for calendar year 1987.

FSIS is developing a proposed regulation that would include a program to "certify" licensed veterinarians and other individuals for official performance of the SOS test before the animal reaches the slaughtering plant. The proposal may also allow the clearance of hogs by lot.

Swine Identification

In November, FSIS and the Animal and Plant Health Inspection Service implemented a program requiring the identification of all swine moving in interstate commerce. Under the new regulation, each person who handles swine in interstate commerce, such as the producer, transporter, or purchaser of the hog, must be sure the animal is identified. Records on each animal must be kept for a period of 2 years to ensure that swine that are diseased or contain violative drug or pesticide residues can be traced back through all marketing channels to determine where the problem originated.

The inability to identify the source of hog carcasses had been a persistent problem in preventing unsafe drug and chemical residues. The time lapse between sampling and confirming a violative residue allows the hog carcass to enter the marketplace and become virtually untraceable. The lack of a mechanism to identify the producer of all violative hog carcasses had allowed producers to continue marketing hogs that contained unacceptable residue levels.

The Residue Violation Information System

Another tool for managing residue violations more effectively is the computerized Residue Violation Information System (RVIS). RVIS is a nationwide, interagency computer system to handle information concerning residue violations in livestock and poultry slaughtered in the United States.

The system is used by field and headquarters personnel of FSIS and the Food and Drug Administration (FDA) to rapidly track and exchange regulatory information on residue violations cases. This information includes: the names of violators, the compound in violation, FDA-scheduled onsite reviews, and pending court cases. RVIS is the first system to share a real-time, interactive, nationwide database between FSIS and FDA, and dramatically speeds up the exchange of information between the two agencies. RVIS presently contains information on approximately 6,000 residue violation cases dating to October 1, 1986.

RVIS is located on a USDA computer in the National Computing Center in Ft. Collins, Colorado. Agency employees can reach the computer to add to or search for information simply by using USDA's telecommunications system. Information on violations is generally entered into RVIS within a week after discovery and is immediately available to all users.

Efforts to Control Microbiological Contamination

Pilot Project in Puerto Rico

As recommended by the National Academy of Science's report, *Poultry Inspection: The Basis for a Risk Assessment Approach*, FSIS began pilot testing a new concept in poultry inspection--Hazard Analysis and Critical Control Points (HACCP)--at a processing plant in Puerto Rico. The HACCP concept is applied to poultry inspection by focusing on

points in the production process where microbial contamination could occur and determining methods to assure that contamination is prevented or controlled.

This study aims to identify certain practical changes that can be made in poultry production and inspection to reduce the level of harmful bacteria, such as *Salmonella*. A group of experts from outside USDA has been providing counsel and critique throughout the project in order to maximize the opportunities for success.

Poultry production can be divided into three major zones for controlling microbial contamination: the farm environment, the feather removal operation, and removal of the viscera. Starting in November 1987, a number of microbial samples were taken from the farm operation and at the plant to provide baseline data at critical control points within each of the three major control zones. As various control measures are tested, their effectiveness can be determined through comparison with the baseline data.

Throughout most of 1988, the HACCP project concentrated on feather removal operations--scalding and picking--because improvements made in this area are generally the simplest and least expensive to implement. Experiments were conducted with the scalders and pickers to see how product contamination could best be prevented, reduced, or controlled.

In early 1989, the primary area of focus will be the farm operations. In addition, the impact of various concentrations of chlorine in the carcass chillers will be studied. A final report will be issued after all three major control zones have been studied and all results have been analyzed.

Microbiological Criteria Advisory Committee

The National Advisory Committee on Microbiological Criteria for Foods met in April, June, and October. The committee, which was established based upon a recommendation of the National Academy of Sciences, advises the Secretaries of Agriculture and Health and Human Services on developing microbiological criteria for assessing the safety and wholesomeness of food.

At the initial meeting in April the committee divided into two working groups—the Meat and Poultry working group and the Seafood working group. The working groups held an additional meeting in August.

Using the Hazard Analysis and Critical Control Points (HACCP) system, microbiological criteria are being developed for refrigerated ready-to-eat meat and poultry products, raw chicken, and cooked shrimp and blue crab. Once microbiological criteria have been developed for these products, new products will be chosen.

The 20 members represent Federal and State regulatory agencies, the scientific community, the food industry, academia, and consumer interests. Members have been appointed for 2 years and their terms may be extended but cannot exceed 6 years. The full committee is scheduled to meet quarterly.

Reprocessing Study Initiated

In October, FSIS asked the Agricultural Research Service (ARS) to study the microbial quality of reprocessed birds compared to uncontaminated birds to provide more information on whether the Agency's current policy permitting reprocessing is still scientifically sound. Reprocessing is the washing of carcasses that have become contaminated during processing in water that contains 20 parts per million of available chlorine.

Initial plans are to analyze approximately 100 samples at each of five plants. Plants have been selected based on geographic location, the type of reprocessing performed, and the availability of shipping and freezer storage facilities.

Sampling began in December, and preliminary data should be available in early March. Reducing microbial contamination of all birds will remain a high priority at FSIS until solutions are found.

Processing Pre-Cooked Products

In December, FSIS proposed specific processing and labeling requirements to ensure the safety of fully cooked, partially cooked, and char-marked ground meat patties. There has been increasing evidence over the past several years that foodborne pathogens may survive in these convenience products, used primarily in institutional food service.

The proposed rule would establish requirements for storage of raw ingredients, processing times and temperatures, handling to prevent contamination after processing, and labels that include cooking instructions for consumers. The proposal invited comments through January 26, 1989.

Increase in Microbiological Monitoring Samples

During fiscal year 1988, FSIS more than doubled the number of microbiological monitoring samples analyzed, to a total of 37,000. FSIS has continued to expand its microbiological monitoring programs for contaminants such as *E. coli*, *Salmonella*, and *Listeria monocytogenes*. Although all programs do not provide enough information to draw valid statistical inferences about nationwide contamination levels, each provides a useful snapshot of microbiological contamination.

Listeria Monitoring Program

Expansion of the monitoring program for the bacteria *Listeria monocytogenes*, which began in September 1987, continued in 1988. Products being monitored now include: domestic raw beef, sliced canned ham, sliced canned luncheon meats, prosciutto ham, and hot dogs. To date, no recalls have been necessary.

Education and Information

Food Safety Hotline Pilot

FSIS and the Food and Drug Administration (FDA) pilot tested a Food Safety Hotline to determine whether a nationwide, toll-free hotline would be an effective means of educating consumers about the safe handling, storage, and preparation of all foods. The hotline was tested from June through August and was available to residents of Massachusetts, Illinois, and Florida.

Over 7,300 calls were made to the Food Safety Hotline. Most inquiries fell into the general categories of safe handling, storage, and preparation of foods; a few were product complaints. Effective training and prior experience enabled staff members to respond immediately to 93 percent of all inquiries received. Consumers were the principal, but not the exclusive, users of the hotline. Topics of particular interest to callers included fish and shellfish safety, *Salmonella* contamination of eggs, product recalls, and pesticide use and regulation.

The Food Safety Hotline pilot provided cost-effective consumer education and facilitated immediate resolution of actual food handling problems. The sponsoring agencies gained an understanding of emerging trends in consumer concerns. Gaps in consumer knowledge were discerned and possible future directions in policy development were highlighted.

Since the "Food Safety Is No Mystery" training program for institutional food service workers was launched in October 1987, more than 6,300 training kits (including training manual, videotape, and posters) have been distributed, exceeding original estimates by sixfold.

Institutional Food Safety

During 1988, nine direct mail campaigns were initiated targeting 53,000 food service directors including those at hospitals, nursing homes, schools, child care centers, summer camps, and amusement parks. Thousands of additional contacts were made at annual meetings of national trade associations. Mailings planned for calendar year 1989 include restaurants, correctional institutions, and schools offering food service curriculums.

Risk-Based Food Safety Education

In fiscal year 1988, FSIS initiated a more scientific approach toward food safety education, consistent with recommendations of the National Academy of Sciences that food safety education programs be more systematic. An Agency project determined the most critical behaviors in preventing foodborne illness and consumer knowledge and practice of these behaviors.

The project involved a literature search and a survey of expert microbiologists, as well as an analysis of available consumer surveys and a new survey of consumer experts. FSIS believes that the new approach will be even more effective in positively influencing consumer food handling behavior, thereby reducing preventable foodborne illness.

Safe Food Book Survey

FSIS's *The Safe Food Book* has been a primary food safety reference for millions of consumers, food service professionals, and educators since it was written in 1984. Due to advances in general food safety knowledge, as well as changes in food packaging and preparation techniques, this publication is scheduled to be revised in 1989.

To prepare for the revision, FSIS conducted in depth telephone surveys with 97 organizations that were nationally representative of organizations which ordered 50 or more copies of *The Safe Food Book* within the last year. Organizations were asked questions about the format, content, reading level, and graphics of the publication. Information from the survey will be incorporated into the revised version.

Scientific Initiatives

Rapid Tests

During 1988, FSIS continued to develop and use rapid tests. These tests significantly improve the ability of FSIS to ensure a safe, accurately labeled meat and poultry supply. They can be conducted on-the-spot in slaughtering or processing plants. Rapid tests are available to detect illegal residues from drugs and chemicals, determine what species is present in a product, or reveal if a product has been cooked or canned properly. Rapid tests are faster and much less expensive than laboratory tests. They are becoming more widely used in meat and poultry inspection.

Rapid Test for Chloramphenicol

The Cattle Urine Test (CUT) was developed and tested by FSIS scientists to detect the presence of chloramphenicol in cattle. Chloramphenicol, an antibiotic, has been banned for use in food animals because it can cause aplastic anemia in susceptible people.

Rapid Species Test

The Serological Ovine Field Test (SOFT), a species identification field test for sheep meat, developed by Agency scientists, was field tested. This test allows import and slaughterhouse inspectors and compliance officers to test raw product for sheep meat onsite. Previously developed

rapid species tests include ORBIT for beef, PROFIT for poultry, and PRIME for pork. These tests are used to ensure that products are accurately labeled. For example, if a label claims a product contains only beef, field or import inspectors may use SOFT to ensure no lamb is included in the product.

A rapid species test for detecting the presence of sheep meat in cooked product was also developed by Agency scientists. Tests for detecting the presence of cooked beef, cooked pork, and cooked poultry had been developed previously.

Parasite Detection

A prototype rapid test was developed to detect cysticercosis in cattle and swine. Cysticercosis is a parasitic disease caused by the larval stage of tapeworms. If undetected, this parasitic tapeworm can be passed on to humans through consumption of infected meat and cause an inflammatory disease of the intestinal tract. Once the test is fully operational, field personnel will be able to read the test with the naked eye and quickly tell if the tapeworm is present.

Labeling

Mechanically Separated Meat Labeling Changes Proposed

In September, FSIS announced that it was accepting comments on a proposal to change the labeling requirements for products that contain 10 percent or less of mechanically separated meat. The proposal was published as a result of a petition by four firms. More than 5,000 comments were received. The Agency is considering each of the comments individually before proposing a final rule.

Mechanically separated species is a high-protein, relatively low-cost product that is made by placing carcasses or carcass parts, which usually have been hand-trimmed but still have some remaining meat, into specialized processing equipment. The parts are broken up and pushed against minute openings in the equipment. These openings allow the meat, along with a very small amount of finely powdered bone and other tissue, to pass through.

The ingredient has been approved for use since 1978. Some of the products in which it may be used include meat patties, various types of cooked sausage, such as frankfurters, and bologna and luncheon meats. Under the current regulations, products containing the ingredients must note it in the ingredient statement—for example, “mechanically separated pork,” and also, in certain cases, the per serving calcium content.

Under the proposed rule, mechanically separated product used in meat and poultry products would not have to be listed in the ingredients statement on the label as long as it does not exceed 10 percent of the meat and poultry portion of the finished product. Also, the product’s label would have to indicate the percentage of the Recommended Daily Allowance of calcium it contained.

Enforcement Actions

Final Rule on Notifying Suspected Violators of the Meat Act

In May, the Agency issued a final regulation requiring USDA to notify suspected violators of the Federal Meat Inspection Act (FMIA) that evidence is being referred to the U.S. Department of Justice for possible criminal prosecution, and defining the five types of cases in which USDA will not provide prior notice. The Processed Products

Improvement Act of 1986 requires USDA to give notice to suspected violators of the FMIA and also gives USDA the authority to establish exemptions to this requirement.

Actions Taken in 1988

Table 3-9 summarizes enforcement actions during fiscal year 1988. Major violations of Federal inspection regulations can result in criminal prosecutions and court-imposed sanctions against firms, their owners, and other officers. Four cases were among the major enforcement actions taken in 1988:

— A Virginia firm was convicted of selling bacon with excess water to the Department of Defense (DOD). The firm was fined \$200,000 as restitution to the Department and \$37,000 in administrative costs. The two owners of the firm were also fined \$100,000 each. As a result of a consent decree negotiated by the company and FSIS, strict monitoring and oversight of the company's operations will be conducted by FSIS for 5 years. Failure to comply with the consent decree will result in the withdrawal of inspection services for the company.

— A New Jersey firm was convicted of preparing, selling and transporting falsely labeled meat food products. The company was fined \$2,200. The firm agreed to improve its operations and controls. Inspection services will be withdrawn if the company fails to comply with FSIS standards.

— In Minnesota, a firm and its owners were convicted and fined for selling cooked sausage that contained undeclared poultry. The court ordered the firm to donate 10,000 pounds of product to charity and fined the firm \$200. The three owners were fined a total of \$17,650.

— A Detroit, Michigan, company was convicted of adding excessive additives to corned beef brisket. The court sentenced the owner to 179 days in prison and fined him \$2,050. An order for the withdrawal of inspection by FSIS is pending.

Recalls

When meat or poultry products already in consumer channels are found to have potentially dangerous contaminants, FSIS works with the firm to recall the products and alerts consumers to the potential danger. FSIS conducts investigations to be certain that the recall was effective, and that corrections are made so that the firm distributes only safe and wholesome products. In 1988, four recalls were handled in this manner.

For example, a Minnesota food-processing firm voluntarily recalled assorted cooked turkey products and cooked hams because they were underprocessed. If *Salmonella* bacteria are present in meat or poultry at the time of slaughter, and it is not cooked sufficiently, the bacteria may survive and could cause salmonellosis, a foodborne illness. If living trichinae organisms are present in hog muscle tissue at the time of slaughter, and the ham is not cooked sufficiently, the organisms may survive and could cause trichinosis, an uncommon but potentially serious infection. Consumers, retail establishments, distributors, and other institutions holding these products were urged to return them. No illnesses were reported.

Advisory Committee on Meat and Poultry Inspection

The National Advisory Committee on Meat and Poultry Inspection held a 2-day meeting in October, to discuss current policy issues affecting FSIS. Policies discussed included: Improved processing inspection, streamlined inspection for cattle, the verified production

control program, the Puerto Rico study on poultry inspection and *Salmonella* control, the exemption of retail stores from Federal inspection, labeling issues, and consumer outreach activities.

The committee advises the Secretary of Agriculture on inspection issues. Its 25 members include public health officials, meat and poultry industry representatives, academicians, and consumer advocates.

International Trade Issues

U.S.-Canada Free Trade Agreement

The U.S.-Canada Free Trade Agreement went into effect on January 1, 1989. It is the most comprehensive trade agreement ever reached between two countries. Negotiators reached agreement in December 1987, and the pact was signed in January 1988; it was then ratified by the Canadian Parliament and the U.S. Congress.

As far as import reinspection is concerned, the agreement allows for "spot checks or similar verifying measures" to ensure compliance with the importing country's standards. Basically, each country can spot check imports from the other country no more frequently than it would check goods produced within its own borders.

Canada has a meat and poultry inspection system that is very similar to the U.S. system. In late 1988, an interim rule requesting comments was published establishing procedures for reinspecting Canadian product in ways that would minimize potential delays in the product entering the United States. Under the rule, Agriculture Canada inspection officials may enter information on product destined for the U.S. into the FSIS automated computer system before the product leaves the plant.

If the computer generates an inspection assignment—a product examination or a laboratory sampling—Canadian inspectors may select the samples, then the truck will proceed to a border inspection site. Samples will be placed in an easily accessible location in the truck, so that it does not have to be fully unloaded. With this less intensive inspection system, it is likely that several key entry points will develop. FSIS pilot tested reinspection procedures for Canadian product during October 1988.

Codex Alimentarius Commission

FSIS participates in the Codex Alimentarius Commission, an international body of scientists and regulators. Through careful scientific review and consensus, Codex develops food standards and codes to facilitate fair trade and protect world consumers. Participation in Codex activities facilitates the international transfer of U.S. science, technology, and regulatory approaches.

The FSIS Administrator is the U.S. coordinator for Codex activities, and represented both the United States and Canada at the 1988 session of the Codex executive committee. At this meeting the relationship between Codex and the General Agreement on Tariffs and Trade was revitalized, thereby enhancing U.S. efforts to reform world trade.

FSIS helped develop several core documents for the Committee on Food Hygiene, including guidelines on aseptic canning, refrigerated foods, and labeling of "keep refrigerated" foods. These documents will not only be the basis for Codex codes and standards; they will also be significant models for countries developing internal regulatory requirements.

The agency also participated in the third meeting of the Committee on Residues of Veterinary Drugs in Food. At this meeting, Codex maximum residue levels for several of the growth-promoting hormones (estradiol, progesterone, testosterone, and zeranol) were proposed and advanced in the Codex approval process. Once again, the actions of the international committee were largely consistent with U.S. policy.

EEC Hormone Ban

Negotiations continued throughout 1988 concerning the European Economic Community's Hormone Ban, which took effect January 1, 1989. The ban prohibits meat imports into the 12 EEC member countries from animals which have been treated with hormones. The effective date had already been delayed from January 1, 1988, when the EEC banned use of hormones for growth-promotion within its own borders.

The United States believes that science should be the only basis for public health and safety regulations. The ban is the political result of concern during the late 1970's over possible health effects in humans from the use of diethylstilbestrol (DES) in beef production. That drug has been banned from use in livestock throughout the world.

The United States allows five hormones—three natural and two synthetic—to be used as growth-promotants in food animals. Scientific evidence has shown that these hormones are safe when administered correctly and at low levels.

During the year, the United States pursued all avenues of discussion with the EEC, including talks between EEC officials and the Secretary of Agriculture and the U.S. Trade Representative. However, the negotiations did not change the EEC's position.

The United States exports about \$100 million to \$140 million worth of meat to Europe each year, while European meat exports to the United States are much higher.

Ensuring Safe Imports and Exports

Permanent Marking of Products Refused Entry

In May, FSIS changed its rules for handling imported meat and poultry that is refused entry into the United States because it fails to pass U.S. reinspection. Import inspectors now permanently mark "U.S. Refused Entry" on each carcass or packing unit that does not pass reinspection. This ensures that rejected products are not returned to the U.S. human food supply, and notifies other countries that the United States has rejected the items.

All Meat and Poultry Exports Reinspected Only at Port of First Arrival

In May, the Agency proposed that imported meat and poultry products be inspected only at the "port of first arrival." Currently, products can be shipped across the country from the initial arrival port to another port for reinspection by FSIS import inspectors. The change would allow much better control of products entering food channels in the United States.

Certification of Foreign Residue Testing Programs

In July, FSIS proposed that foreign countries wishing to export meat or meat products to the United States would have to get an annual certification that their residue control programs meet U.S. standards. The proposal identifies the additional information necessary for countries to secure this certification.

***Mexico Relisted as
Eligible to Export
Meat to U.S.***

Effective December 29, FSIS relisted Mexico as a country eligible to export beef, mutton, pork, and goat products to the United States. The country had been removed from the list of eligible countries in February 1984, because it did not have satisfactory residue testing and species verification programs to meet provisions of the Federal Meat Inspection Act, as amended by the Agriculture and Food Act of 1981.

Reviews of Mexico's laws, regulations and other materials, and onsite reviews of its inspection system indicated that the program now meets U.S. standards. It is estimated that the United States will receive about 2.5 million pounds of meat products annually from Mexico.

***Revised Export
Certification Process
Pilot Tested***

During August, the Agency pilot tested a program that would centralize the export certification process. FSIS provides certification of all U.S. meat and poultry products exported to foreign countries, stating that the products have been inspected and passed by U.S. inspectors and that the foreign countries' requirements have been met. The Agency issues about 120,000 such certificates each year. The pilot test identified areas where changes can be made to improve the export certification process.

Domestic and Export Inspection

Only federally inspected meat and poultry plants may sell their products in interstate or foreign commerce. In 1988, FSIS inspected 119 million head of livestock, 5.6 billion birds, and 150 billion pounds of processed products.

More than 7,600 Federal inspectors, including many veterinarians, carry out the inspection laws in some 6,900 meat and poultry slaughtering and processing plants. Animals are inspected before slaughter to detect diseases or other abnormalities and are inspected again after slaughter. Products are inspected during processing, handling, and packing.

Control, and condemnation of misbranded or adulterated products, is the most important way FSIS encourages compliance with inspection laws and regulations. However, the Agency can take other actions if they are necessary to prevent adulterated or misbranded products from reaching consumers. These actions include temporarily halting inspection (and thus production) until serious problems are corrected, stopping product distribution, persuading companies to recall violative products, and seeking court-ordered product seizures when necessary.

FSIS also monitors State inspection programs, which inspect meat and poultry products that will be sold only within the State in which they were produced. The 1967 Wholesome Meat Act and the 1968 Wholesome Poultry Products Act require State inspection programs to be "at least equal to" the Federal inspection program. If States choose to end their inspection programs or cannot maintain this standard, FSIS must assume responsibility for inspection.

Figure 3-1 shows federally inspected plants and all USDA full-time permanent field personnel by location. The plant figures include USDA-staffed plants and Talmadge-Aiken plants, which are federally inspected but staffed by State employees. In addition, 75 inspectors (supported by 14 field personnel) examine meat and poultry imports at points of entry in to the United States.

Figure 3-1

Number of Federally Inspected Plants and Inspectors by Location

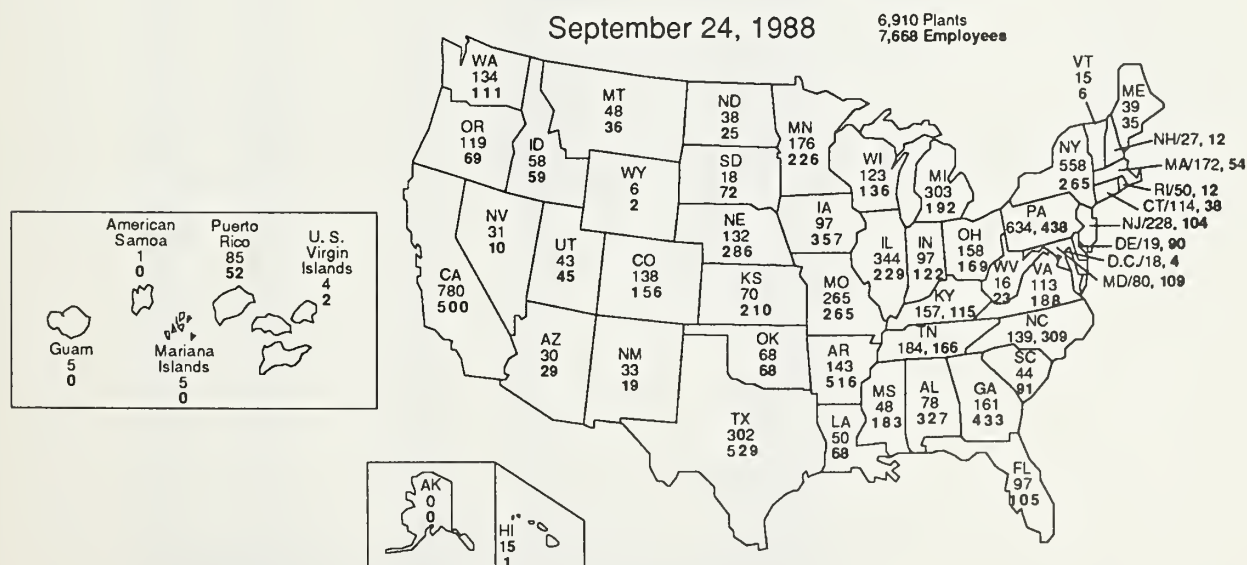


Table 3-2

Table 3-2 lists the number of federally inspected meat, poultry, and combination meat and poultry plants that operated under Federal inspection in each State or U. S. territory as of September 30, 1988. In addition, imported meat and poultry products are examined at 150 official import establishments.

Number of Federally Inspected Meat, Poultry, and Combination Meat and Poultry Plants by Location

<i>State or Territory</i>	<i>Meat Plants</i>	<i>Poultry Plants</i>	<i>Meat&Poultry Plants</i>	<i>Total</i>
Alaska	0	0	0	0
Alabama	15	28	18	61
American Samoa	1	0	0	1
Arizona	16	0	14	30
Arkansas	46	35	62	143
California	263	48	469	780
Colorado	89	4	45	138
Connecticut	53	5	56	114
Delaware	2	8	0	10
District of Columbia	9	1	8	18
Florida	32	6	55	93
Georgia	21	44	44	109
Guam	2	0	3	5
Hawaii	1	0	1	2
Idaho	25	0	33	58
Illinois	166	9	146	321
Indiana	43	15	38	96
Iowa	50	7	40	97
Kansas	35	1	34	70
Kentucky	92	5	60	157
Louisiana	20	3	21	44
Maine	14	1	24	39
Mariana Islands	2	0	3	5
Maryland	19	12	23	54
Massachusetts	79	14	79	172
Michigan	178	3	122	303
Minnesota	49	16	111	176
Mississippi	4	19	10	33
Missouri	111	26	128	265
Montana	17	1	30	48
Nebraska	62	6	64	132
Nevada	9	2	20	31
New Hampshire	10	2	15	27
New Jersey	88	11	129	228
New Mexico	8	1	17	26
New York	271	25	262	558
North Carolina	31	22	27	80
North Dakota	22	1	15	38
Ohio	75	13	69	157
Oklahoma	18	4	26	48
Oregon	60	4	55	119
Pennsylvania	334	42	258	634
Puerto Rico	52	5	28	85
Rhode Island	25	3	22	50
South Carolina	18	9	17	44
South Dakota	11	2	5	18
Tennessee	92	9	83	184
Texas	98	15	162	275
Utah	12	2	23	37
Vermont	6	0	9	15
Virginia	26	12	32	70
Virgin Islands	2	0	2	4
Washington	55	5	74	134
West Virginia	5	3	8	16
Wisconsin	53	11	59	123
Wyoming	2	0	1	3
Subtotal	2,899	520	3,159	6,578
Talmadge/Aiken	165	8	159	332
Total	3,064	528	3,318	6,910

Table 3-3

Table 3-3 presents the number of meat and poultry slaughtering and/or processing plants that operated under Federal inspection as of September 30, 1988.

Numbers and Types of Plants Operating Under Federal Inspection as of September 30, 1988

<i>Type of Plant</i>	<i>Meat Plants</i>	<i>Poultry Plants</i>	<i>Meat&Poultry Plants</i>	<i>Total</i>
Slaughtering	211	164	1	376
Processing	1,854	216	2,791	4,861
Slaughtering and Processing	834	140	367	1,341
Subtotal	2,899	520	3,159	6,578
Talmadge-Aiken	165	8	159	332
Total	3,064	528	3,318	6,910

Table 3-4

Table 3-4 lists the number of meat and poultry plants inspected under Talmadge-Aiken agreements as of September 30, 1988.

Talmadge-Aiken Plants

<i>State</i>	<i>Meat Plants</i>	<i>Poultry Plants</i>	<i>Meat&Poultry Plants</i>	<i>Total</i>
Alabama	7	0	10	17
Alaska	0	0	0	0
Delaware	6	0	3	9
Florida	2	1	1	4
Georgia	24	0	28	52
Hawaii	9	0	4	13
Illinois	11	1	11	23
Indiana	0	0	1	1
Louisiana	1	0	5	6
Maryland	11	1	14	26
Mississippi	5	0	10	15
New Mexico	3	0	4	7
North Carolina	44	3	12	59
Ohio	1	0	0	1
Oklahoma	3	0	17	20
Texas	12	1	14	27
Utah	2	0	4	6
Vermont	0	0	0	0
Virginia	24	1	18	43
Wyoming	0	0	3	3
Total	165	8	159	332

Table 3-5

Table 3-5 and Figure 3-5 summarize the number of meat animals inspected at slaughter in federally inspected plants in selected fiscal years from 1978 through 1988. The species listed are those legally classified as meat food animals under the Federal Meat Inspection Act.

Livestock Federally Inspected

Species	1978	1983	1987	1988
Cattle	36,810,000	33,528,000	34,811,000	32,711,568*
Calves	3,751,000	2,719,000	2,779,200	2,432,741*
Swine	72,095,000	78,993,000	76,387,900	79,018,904*
Goats	44,000	82,000	159,000	234,204
Sheep & lambs	5,167,000	6,226,000	5,095,600	4,743,054*
Equines	326,000	139,000	246,000	299,210
Total	118,193,000	121,687,000	119,478,700	119,439,681

* These figures are compiled from the National Agricultural Statistics Service's database. The data consist of final totals from October through December, 1987, and preliminary data for January through October, 1988. Statistical adjustments have been made for condemnations. Since the figures are derived from different databases, direct comparisons should not be made between tables 3-5 and 3-8.

Figure 3-5

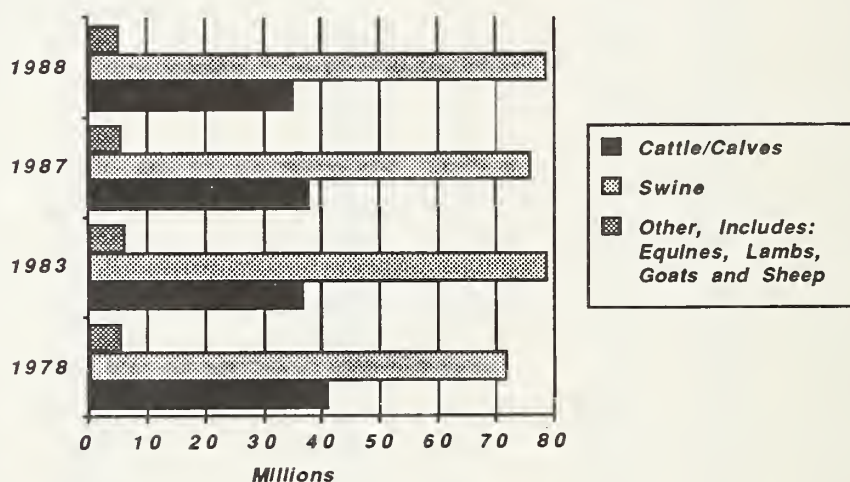


Table 3-6

Table 3-6 and Figure 3-6 summarize the number of poultry inspected at slaughter in federally inspected plants in selected fiscal years from 1978 through 1988. The species listed are legally classified as poultry for food purposes by the Poultry Products Inspection Act, except for the category "Other." That category includes rabbits and poultry species inspected under voluntary inspection programs. USDA is reimbursed for the costs of such voluntary inspection.

Poultry Federally Inspected

Class	1978	1983	1987	1988
Young chickens	3,483,346,000	4,155,861,000	4,927,454,000	5,149,031,000
Mature chickens	191,844,000	190,417,000	193,055,000	197,246,000
Fryer-roaster turkeys	7,363,000	4,339,000	5,164,000	3,655,000
Young turkeys	121,860,000	160,024,000	216,489,000	235,633,000
Mature turkeys	934,000	1,265,000	1,482,000	1,748,000
Ducks	14,775,000	20,644,000	23,093,000	24,074,000
Other	1,148,000	1,119,000	1,555,000	3,387,000
Total	3,821,270,000	4,533,669,000	5,368,292,000	5,614,774,000

Figure 3-6

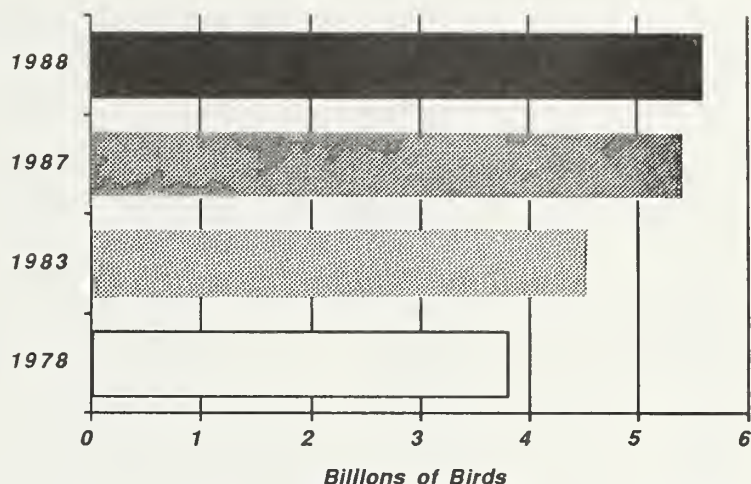


Table 3-7

Table 3-7 and Figure 3-7 summarize the Federal inspection of processed meat and poultry products in selected fiscal years from 1978 through 1988. The weight figures represent the total weight of finished products, including ingredients other than meat or poultry. The figures reflect some multiple counting of complex processed products, which may require inspection at several points during processing.

Processed Meat and Poultry Products Federally Inspected

Product	1978	1983	1987	1988
Meat products	65.6	66.6	67.2	71.9
Poultry Products	26.9	45.7	68.5	78.5
Total	92.5	112.3	135.7	150.4

Billions of Pounds

Figure 3-7

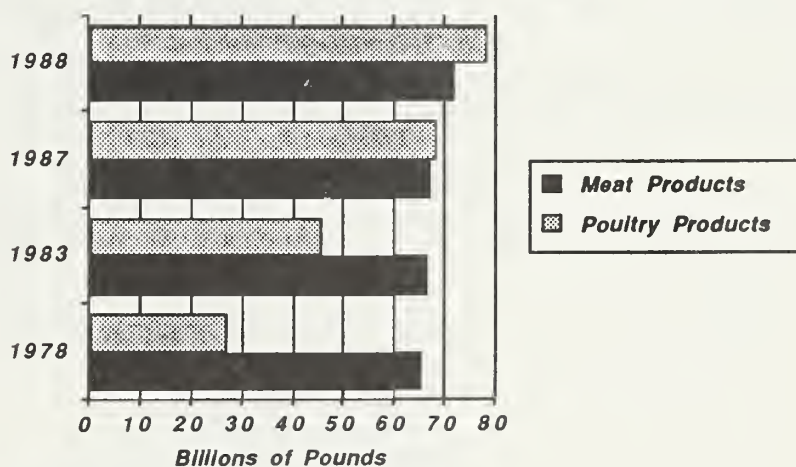


Table 3-8

Table 3-8 summarizes the number of animal and poultry carcasses condemned during fiscal year 1988. Animals are condemned for disease, contamination, or adulteration during ante-mortem or post-mortem inspection.

Animal and Poultry Carcasses Condemned

<i>Species or Class</i>	<i>Inspected Carcasses</i>	<i>Condemned Carcasses</i>	<i>Condemned as a percentage of those Inspected</i>
Cattle	32,711,568	130,283*	0.40
Calves	2,432,741	39,381*	1.62
Swine	79,018,904	169,768*	0.21
Goats	234,204	1,418	0.61
Sheep	4,743,054	23,520*	0.50
Equine	299,210	1,171	0.39
Total Meat	119,439,681	365,541	0.31
Young chickens	5,149,031,000	56,570,795	1.10
Mature chickens	197,246,000	7,377,862	3.74
Fryer-roaster turkeys	3,655,000	34,642	0.95
Young turkeys	235,633,000	2,700,234	1.15
Mature turkeys	1,748,000	59,860	3.42
Ducks	24,074,000	319,846	1.33
Other	3,387,000	28,554	0.84
Total Poultry	5,614,774,000	67,091,793	1.19

* These figures are derived from the FSIS database. The figures should be used only to estimate condemnation proportions, and not to represent total number of federally inspected meat carcasses. Since the figures are derived from separate databases, direct comparisons should not be made between tables 3-8 and 3-5

Table 3-9

Table 3-9 summarizes enforcement actions taken in fiscal year 1988. Some of these actions were based on compliance reviews of meat and poultry handlers. Approximately 56,000 reviews were made in fiscal year 1988. Approximately 10,000 handlers are periodically reviewed; risk categories determine the frequency of scheduled reviews. Random reviews are also conducted.

Enforcement Actions

<i>Action</i>	<i>Number</i>	<i>Pounds</i>
Detention of suspect products	1,019	11,472,799
Monitoring of product recalls	17	1,442,842
Court seizures initiated by Compliance	3	83,129
Evaluation Incident Reports filed		
[Irregularities reported to inspection supervisors]	2,136	
Cases received by Compliance	1,139	
Cases referred to Inspector General	3	
Cases requiring consultation with General Counsel	49	
Letters of warning issued	1,533	
Convictions	24	
Administrative actions to withdraw inspection filed	10	

Table 3-10

Table 3-10 summarizes the number of samples analyzed by Science during fiscal year 1988. Over 2,174,000 analyses were performed on these samples. Approximately 107,000 samples were taken from processed products such as hams, sausages, cured meats, and similar items.

Laboratory Samples Analyzed

<i>Category of Samples</i>	<i>Total</i>
Food chemistry	70,021
Food microbiology and species	37,410
Chemical residues	*102,714
Antibiotic residues	**223,210
Pathology (residue)	1,027
Pathology (nonresidue)	10,133
Serology	3,928
Food additives and nonfoods	12,007
Radiation	3,184
Total	463,634

*Includes 52,039 SOS (Sulfa-On-Site) tests

**Includes 23,600 STOP (Swab Test on Premises) and 180,728 CAST (Calf Antibiotic Sulfa Test) analyses.

Table 3-11

Table 3-11 summarizes the number of meat and poultry product labels reviewed and either approved or not approved by the Standards and Labeling Division (SLD) of Technical Services and Inspectors-in-Charge (IIC) during fiscal year 1988.

Labels Reviewed

<i>Activity</i>	<i>Number</i>
Labels approved by SLD	116,580
Labels approved by IIC's	37,990
Labels not approved	27,833
Total labels reviewed	182,403

Table 3-12

Table 3-12 summarizes the number of blueprints and equipment drawings reviewed by the Facilities, Equipment and Sanitation Division of Technical Services during fiscal year 1988.

Facilities and Equipment Reviewed

<i>Activity</i>	<i>Number</i>
Blueprints of plants	3,783
Drawings of equipment	2,861

Table 3-13

Table 3-13 shows the number of persons trained by the Training Division of Technical Services during fiscal years 1987 and 1988 and the types of training received.

Inspection Training

	1987	1988
Total Persons Trained	2042	1632
Federal employees	1,694	1,377
State employees	116	33
Others	232	222
Number of Employees Reached with Each Type of Training		
Correspondence courses [total]	1,754	1,796
Basic educational skills	706	693
Technical subjects	1,048	1,103
Audiovisual programs	1,021	530

Table 3-14

Table 3-14 lists the dates the Department assumed inspection in designated States.

Dates USDA Assumed Intrastate Inspection

State	Meat	Poultry
Arkansas	06/01/81	01/02/71
California	04/01/76	04/01/76
Colorado	07/01/75	01/02/71
Connecticut	10/01/75	10/01/75
Georgia	----	01/02/71
Idaho	07/01/81	01/02/71
Kentucky	01/14/72	07/28/71
Maine	05/12/80	01/02/71
Massachusetts	01/12/76	01/12/76
Michigan	10/03/81	01/02/71
Minnesota	05/16/71	01/02/71
Missouri	08/18/72	08/18/72
Montana	*	*
Nebraska	10/01/71	07/28/71
Nevada	07/01/73	07/01/73
New Hampshire	08/07/78	08/07/78
New Jersey	07/01/75	07/01/75
New York	07/16/75	04/11/77
North Dakota	06/22/70	01/02/71
Oregon	07/01/72	01/02/71
Pennsylvania	07/17/72	10/31/71
Rhode Island	10/01/81	10/01/81
South Dakota	----	01/02/71
Tennessee	10/01/75	10/01/75
Utah	----	01/02/71
Washington	06/01/73	06/01/73
West Virginia	----	01/02/71

* The Department assumed inspection in Montana on 04/27/71 for meat and on 01/02/71 for poultry. Montana resumed inspection for both meat and poultry effective 06/06/88.

Table 3-15

Table 3-15 summarizes the number of States at the end of fiscal year 1988 with intrastate inspection programs for meat (28) and poultry (24); the number of State program employees as of September 30, 1988; and Federal funding assistance expended by States during fiscal year 1988. "M" after the name of the State indicates that the State conducted a meat inspection program; "M & P" indicates that the State conducted meat and poultry inspection programs. In order to continue operating intrastate inspection programs, and in order to continue receiving Federal funding assistance, States must maintain inspection requirements at least equal to those of the Federal program.

State Inspection Program

State	Regular Plants				Custom Exempt Plants				Full Time Equivalent Staff Years	FY 1988 Federal Assistance
	Meat	Poultry	Meat&Poultry	Total	Meat	Poultry	Meat&Poultry	Total		
Alabama M&P	84	7	7	98	36	0	0	36	49	*1,043,539
Alaska M&P	13	5	0	18	2	0	3	5	12	*376,433
Arizona M&P	62	5	3	70	40	0	0	40	24	444,235
Delaware M&P	3	0	3	6	3	1	1	5	16	302,393
Florida M&P	141	4	60	205	42	0	0	42	156	1,913,107
Georgia M (1)	119	0	0	119	36	0	0	36	114	2,201,285
Hawaii M&P	55	4	15	74	0	0	0	0	51	*984,182
Illinois M&P	355	30	48	433	23	10	0	33	180	3,195,446
Indiana M&P	90	8	51	149	35	9	0	44	104	1,724,593
Iowa M&P	82	7	79	168	145	25	0	170	45	836,378
Kansas M&P	166	8	9	183	21	2	1	24	68	1,021,285
Louisiana M&P	97	5	1	103	69	0	0	69	82	1,267,876
Maryland M&P	42	9	1	52	20	7	0	27	49	876,327
Mississippi M&P	40	3	36	79	23	3	0	26	71	951,028
Montana M&P	4	0	0	4	149	1	24	174	2	*20,335
New Mexico M&P	34	1	18	53	27	1	1	29	15	306,596
North Carolina M&P	199	13	0	212	61	0	0	61	138	2,358,127
Ohio M&P	213	30	114	357	88	23	5	116	188	3,740,300
Oklahoma M&P	112	7	0	119	94	0	0	94	87	1,509,198
South Carolina M&P	107	10	42	159	0	0	0	0	57	909,932
South Dakota M (1)	59	0	0	59	67	0	0	67	29	304,523
Texas M&P	415	18	30	463	137	1	0	138	252	*3,738,554
Utah M (1)	32	0	0	32	74	0	0	74	32	509,663
Vermont M&P	19	1	0	20	9	3	0	12	15	247,328
Virginia M&P	11	2	5	18	144	0	2	146	54	1,080,601
West Virginia M (1)	41	0	0	41	46	0	0	46	28	592,534
Wisconsin M&P	217	12	65	294	123	4	15	142	99	*1,936,901
Wyoming M&P	28	0	0	28	39	0	0	39	12	*181,654
Total	2,840	189	587	3,616	1,553	90	52	1,695	2,029	34,574,416
California (2)	0	0	0	0	364	16	2	382	2	102,720
Minnesota (2)	0	0	0	0	349	10	0	359	3	126,892

(1) Poultry Program under Federal jurisdiction. (2) Regular plants are under Federal jurisdiction. Custom Exempt facilities are reviewed under State jurisdiction.
* Estimate

Figure 3-16

Figure 3-16 shows, for fiscal year 1988, the volume of U. S. meat exports and the major countries receiving the products.

Major Receivers of U.S. Meat Exports

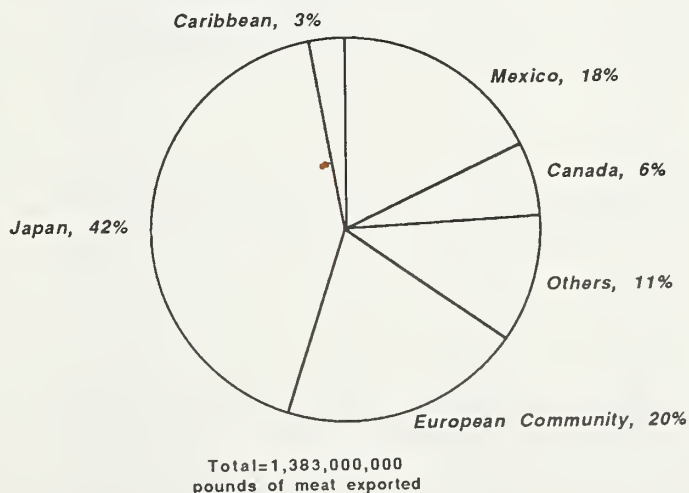


Figure 3-17

Figure 3-17 shows, for fiscal year 1988, the volume of U.S. poultry exports and the major countries receiving the products.

Major Receivers of U.S. Poultry Exports

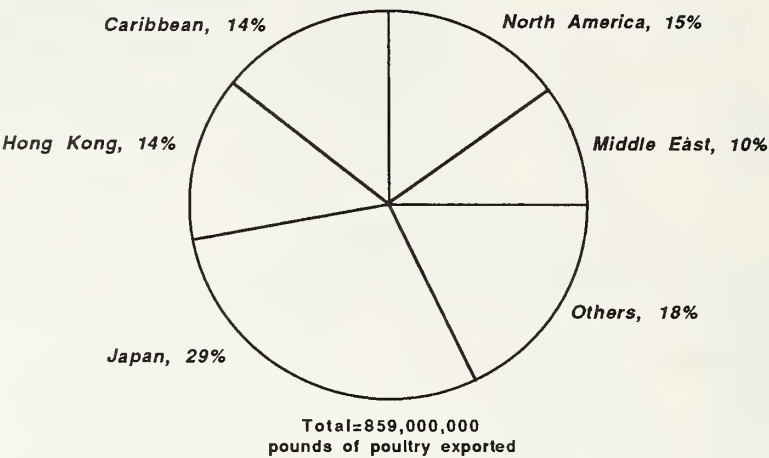


Table 3-18

Table 3-18 shows the the increase or decrease in U.S. meat exports between fiscal years 1987 and 1988, the volume of U.S. meat exports, and the major countries receiving the products.

Change in Meat Exports

Area or Country	Fiscal Year 1987 Thousands of Pounds	Fiscal Year 1988 Thousands of Pounds	Percentage Change from Fiscal Year 1987
North America			
Canada*	66,030	82,203	24.50
Mexico	98,929	249,631	152.30
Subtotal	164,959	331,834	101.20
Caribbean			
Bahamas	11,164	13,728	23.00
Bermuda	4,491	4,153	-7.50
Netherlands Antilles	6,391	5,864	-8.20
Others	25,496	21,411	-16.00
Subtotal	47,542	45,157	-5.00
Central America			
Belize	1,045	1,248	19.40
Costa Rica	789	584	-26.00
Honduras	545	225	-58.70
Panama	3,404	3,640	6.90
Others	650	600	-2.10
Subtotal	6,433	6,296	-2.10
South America			
Argentina	2,244	150	-93.30
Brazil	161,522	2	-100.00
Chile	668	615	-7.90
Colombia	840	739	-12.10
Venezuela	6,667	17,132	157.00
Others	1,118	1,539	37.70
Subtotal	173,059	20,176	-88.30
Europe			
European Community-12			
Belgium-Luxembourg	40,631	49,689	22.30
Denmark	4,127	3,587	-13.10
France	100,142	97,457	-2.70
Germany, Federal Rep.	4,096	4,328	5.70
Greece	134	163	21.30
Ireland	26	262	891.70
Italy	5,712	7,392	29.40
Netherlands	44,789	36,638	-18.20
Portugal	1,475	1,649	11.80
Spain	5,273	5,534	4.90
United Kingdom	64,189	67,930	5.80
Subtotal	270,595	274,629	1.50
Other Western Europe			
Austria	1,761	1,892	7.40
Sweden	2,963	3,858	30.20
Switzerland	3,922	4,279	9.10
Others	395	454	15.10
Subtotal	9,041	10,483	15.90
Western Europe Subtotal	279,636	285,112	2.00
USSR and Eastern Europe			
Germany, Democratic Rep	7,317	16,473	125.10
Others	93	631	581.00
Subtotal	7,410	17,103	130.80
Middle East			
Egypt	48,376	45,088	-6.80
Iraq	0	0	0.00
Israel	7,582	5,981	-21.10
Kuwait	1,124	1,477	31.40
Saudi Arabia	4,705	4,502	-4.30
Others	705	840	19.10
Subtotal	62,492	57,888	-7.40
Africa	2,119	2,485	17.30
Asia			
Hong Kong	8,743	15,135	73.10
Japan	428,711	580,361	35.40
Korea, Republic of	1,047	5,946	467.80
Singapore	2,599	2,829	8.80
Taiwan	4,892	5,578	14.00
Others	3,986	3,814	-4.30
Subtotal	449,979	613,661	36.40
Oceania	2,756	3,045	10.50
Total	1,196,384	1,382,758	15.60

Source: U.S. Department of Commerce, Bureau of Census * In recent years all U.S. agricultural exports to Canada have been underreported. This discrepancy is officially recognized by both governments.

Table 3-19

Table 3-19 shows the the increase or decrease in poultry exports between fiscal years 1987 and 1988, the volume of U.S. poultry exports, and the major countries receiving the products.

Change in Poultry Exports

Area or Country	Fiscal Year 1987 Thousands of Pounds	Fiscal Year 1988 Thousands of Pounds	Percentage Change from Fiscal Year 1987
North America			
Canada*	62,796	57,846	-7.90
Mexico	33,431	73,982	121.30
Subtotal	96,226	131,828	37.00
Caribbean			
Bahamas	3,792	4,467	17.80
Bermuda	4,489	4,636	3.30
Netherlands Antilles	18,594	21,548	15.90
Others	90,122	90,305	0.20
Subtotal	116,996	120,955	3.40
Central America			
Belize	95	79	-16.30
Costa Rica	4	2	-50.00
Honduras	428	77	-82.00
Panama	1,056	611	-42.20
Others	203	51	-54.10
Subtotal	1,786	820	-54.10
South America			
Argentina	20	0	-100.00
Brazil	2	0	-100.00
Chile	2	4	100.00
Colombia	2,172	2,262	4.20
Venezuela	7	2	-66.70
Others	591	7	-98.90
Subtotal	2,793	2,275	-18.50
Europe			
European Community-12			
Belgium-Luxembourg	29	421	1369.20
Denmark	22	51	130.00
France	3,675	4,363	18.70
Germany, Federal Rep.	8,342	9,667	15.90
Greece	291	866	197.70
Ireland	2	46	2000.00
Italy	168	40	-76.30
Netherlands	3,011	5,082	68.70
Portugal	0	968	---
Spain	5,818	16,404	182.00
United Kingdom	3,358	5,209	55.20
Subtotal	24,716	43,118	74.50
Other Western Europe			
Austria	51	0	-100.00
Sweden	73	44	-39.40
Switzerland	615	1,153	87.50
Others	93	73	-21.40
Subtotal	831	1,270	52.80
Western Europe Subtotal	25,547	44,387	73.70
USSR and Eastern Europe			
Germany, Democratic Rep	0	0	---
Others	146	0	-100.00
Subtotal	146	0	-100.00
Middle East			
Egypt	86,533	35,944	-58.50
Iraq	97,426	35,750	-63.30
Israel	115	0	-100.00
Kuwait	2,052	3,536	72.30
Saudi Arabia	5,326	4,627	-13.10
Others	3,397	4,376	28.80
Subtotal	194,849	84,233	-56.80
Africa	3,926	10,604	170.10
Asia			
Hong Kong	108,118	118,076	9.20
Japan	191,835	250,597	30.60
Korea, Republic of	209	432	106.30
Singapore	57,022	58,900	3.30
Taiwan	2,202	9,780	344.00
Others	2,275	2,218	-2.50
Subtotal	361,662	440,003	21.70
Oceania	21,010	24,043	14.40
Total	824,941	859,150	4.10

Source: U.S. Department of Commerce, Bureau of Census * in recent years all U.S. agricultural exports to Canada have been underreported. This discrepancy is officially recognized by both governments.

Foreign Program Review and Import Inspection

Information on foreign program review and import inspection is presented on a calendar year basis, as required by the Federal Meat Inspection Act. Information on both meat and poultry imports is included.

Although no formal report is required by the Poultry Products Inspection Act, it should be noted that poultry imports are controlled under regulations comparable to those applied to meat imports. Only limited quantities of poultry products, mainly specialty items, are imported into the United States.

Foreign Program Review

Federal meat and poultry inspection laws require countries exporting meat or poultry to the United States to impose inspection requirements at least equal to U.S. requirements. The Foreign Programs Division evaluates foreign meat and poultry inspection programs through system reviews, including onsite reviews of plants in the eligible country.

System Review

System review includes an evaluation of the laws, policies, and operation of the inspection system in each country that is eligible to export products to the United States. FSIS now evaluates country controls in the following risk areas: disease, residues, contamination, processing, and economic fraud.

Onsite Reviews

Onsite reviews of exporting plants and system operations--including facilities and equipment, laboratories, and training--are ways FSIS evaluates the effectiveness of foreign inspection systems. Twenty FSIS foreign programs officers conduct onsite reviews in eligible exporting countries. An addendum to this report, *Foreign Countries and Plants Certified to Export Meat and Poultry to the United States*, summarizes data from 1988 reviews.

Import Inspection

Import inspection is a check on the effectiveness of foreign inspection systems in assuring wholesome, accurately labeled products that meet U.S. standards. FSIS uses data from import inspection, including randomly selected monitoring samples, to evaluate foreign inspection systems.

About 89 import inspection personnel carried out import inspection during 1988 at 150 official import establishments. Imported meat and poultry that undergoes further processing in the United States is subject to further scrutiny in federally inspected plants.

Inspection Certificates

An inspection certificate issued by the responsible official of the exporting country must accompany each shipment of meat or poultry products offered for entry into the United States.

Certificates identify products by country and plant of origin, destination, shipping marks, and amounts. They certify that the products received ante-mortem and post-mortem inspection; that they are wholesome, not adulterated, or misbranded; and that they otherwise comply with U.S. requirements.

Automated Import Information System

A description of each lot arriving at U.S. ports is entered into the Automated Import Information System (AIIS). This computerized system centralizes inspection and shipping information from all ports, allowing FSIS to determine inspection requirements based on the compliance history of each country and establishment. Information stored in the system includes:

--Amount and kind of products offered from each country and establishment and the amount refused entry;

--Results of certification and labeling inspections;

--Results of organoleptic inspection for defects such as bone, hair, and cartilage;

--Results of laboratory samples tested for residues, proper cooking temperatures, economic, and other adulterants.

To assure that representative samples are selected, statistical sampling plans are applied to each lot of product to be inspected. The sampling plans and criteria for acceptance or rejection of imports are the same as those applied to U.S. meat and poultry products prepared under Federal inspection.

Residues in Imported Products

In order to export to the United States, a foreign country must have a residue control program with standards at least equal to U. S. standards. Recent statutory amendments require that foreign residue control programs include random sampling of animals at slaughter, the use of approved sampling and analytical methods, testing tissues for specific compounds, and testing for compounds identified as potential contaminants of meat exported to the United States.

Imported meat and poultry products are sampled for the presence of chemical and drug residues. As for domestic inspection, shipments are not held pending laboratory test results unless there is some reason to suspect contamination.

If a laboratory reports a residue violation on a sample, which has otherwise passed reinspection, efforts are made to locate any part of the shipment that is still available. Products recovered are not allowed to be used for human food.

During 1988, 21,952 residue samples of imported product were submitted for laboratory analysis. In only 46 instances have products been found to contain drug or chemical residues exceeding tolerances.

Table 4-1

Table 4-1 lists the number of plants in each foreign country certified to export meat or poultry products to the U.S. during 1988. It also shows the number of inspectors licensed by each country to inspect those products. Eligible foreign inspection systems are responsible for the continuous inspection of products destined for export to the U.S. The number of inspectors in each country depends on the number of certified plants and the volume of products shipped to the U.S.

**Foreign Plants Authorized to Export Products
to the United States and Number of Inspectors**

Country	Authorized 1/1/88	Plants Decertified	Plants Granted Authorization	Plants Reinstated	Authorized Plants on 12/31/88	Licensed Foreign Inspectors
Argentina	20	0	0	0	20	306
Australia	138	22	12	9	137	1,615
Austria	NA	NA	NA	NA	NA	NA
Belgium	3	0	1	0	4	45
Belize	1	1	0	1	1	5
Brazil	24	0	2	0	26	353
Canada	585	0	30	0	615	1,540
Costa Rica	4	0	0	0	4	36
Czechoslovakia	2	0	0	0	2	40
Denmark	133	3	1	0	131	1,425
Dominican Republic	5	0	0	0	5	20
El Salvador	1	0	0	0	1	11
England	1	0	1	0	2	NA
Finland	6	0	0	0	6	40
France	123	3	6	0	126	75
Federal Republic of Germany	20	1	0	1	20	33
Guatemala	3	0	1	0	4	17
Honduras	4	0	0	0	4	30
Hong Kong	1	0	0	0	1	10
Hungary	8	0	0	0	8	133
Iceland	3	0	0	0	3	17
Ireland	4	0	0	0	4	55
Israel	27	0	0	0	27	47
Italy	36	0	3	0	39	30
Japan	NA	NA	NA	NA	NA	NA
Netherlands	31	6	1	4	30	332
New Zealand	72	3	14	2	85	1,075
Northern Ireland	NA	NA	NA	NA	NA	NA
Norway	NA	NA	NA	NA	NA	NA
Panama	NA	NA	NA	NA	NA	NA
Paraguay	NA	NA	NA	NA	NA	NA
Poland	22	0	0	0	22	770
Romania	15	0	0	0	15	262
Scotland	NA	NA	NA	NA	NA	NA
Spain	NA	NA	NA	NA	NA	NA
Sweden	21	1	0	0	20	105
Switzerland	8	0	1	0	9	20
Uruguay	23	1	1	0	23	222
Venezuela	NA	NA	NA	NA	NA	NA
Yugoslavia	16	0	0	0	16	130
Total	1360	41	74	17	1410	8,800

NA=Countries which DID NOT export products to the U. S.

Table 4-2

Table 4-2 summarizes residue testing data from the leading countries exporting to the U.S. during 1988.

Foreign Countries Residue Testing Data

Country	Chlorinated Hydrocarbons		PCB's		Organo-Phosphates		Antibiotics		Chloramphenicol	
	Tests	Violations	Tests	Violations	Tests	Violations	Tests	Violations	Tests	Violations
Australia	7,587	0	---	---	3,288	7	3,295	12	460	0
Canada	1,782	0	1,782	0	922	0	13,335	144	12,007	20
New Zealand	10,242	8	2,257	0	306	0	5,498	14	303	0
Denmark	242	0	242	0	*	0	22,605	3	0	0
Argentina	524	0	262	0	128	0	1,653	0	161	0
Poland	27,328	1	2,257	0	6,180	0	5,498	14	303	0
Brazil	2,795	12	1,394	0	214	0	6,276	0	472	2
Costa Rica	2,970	0	1,485	0	43	0	83	0	50	2
Hungary	2,760	0	1,380	0	491	0	5,446	0	368	0
Dominican Republic	3,114	1	1,557	0	32	0	23	0	23	0

* Denmark is exempt for organo-phosphates.

Country	Hormones		Trace Elements		Sulfonamides		Species Verification	
	Tests	Violations	Tests	Violations	Tests	Violations	Tests	Violations
Australia	80	0	928	0	618	12	31,055	2
Canada	1,935	0	1,332	15	3,198	89	1,268	0
New Zealand	2,072	0	3,000	80	1,013	18	300	0
Denmark	455	0	250	0	22,605	3	8	0
Argentina	569	0	13,327	0	322	0	79	0
Poland	---	---	21,066	23	10	0	300	0
Brazil	162	0	1,620	6	---	---	953	0
Costa Rica	46	0	132	0	2	0	1,362	0
Hungary	188	0	3,898	0	5,446	0	0	0
Dominican Republic	32	1	408	0	10	0	427	0

Table 4-3

Table 4-3 summarizes the volume and source of products exported to the U. S. by leading countries during 1988. Ten countries were responsible for 95 percent of the products.

Volume and Source of Products Imported into the U.S.

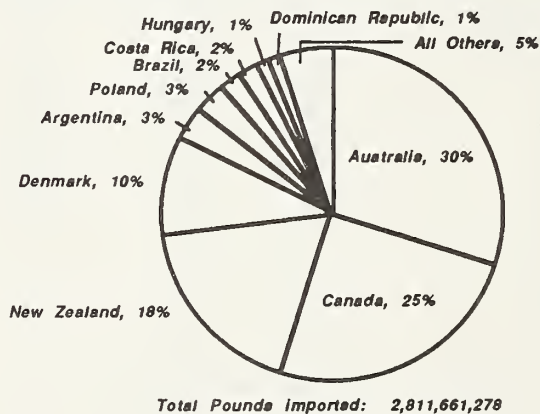
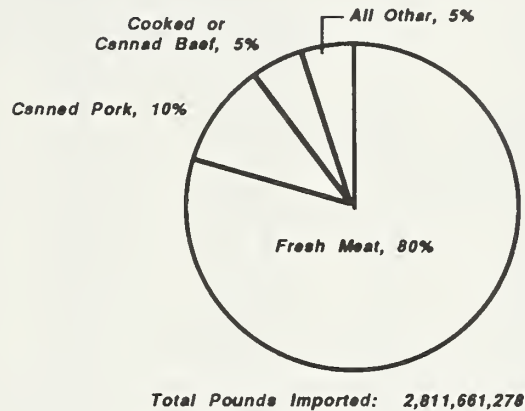


Table 4-4

Figure 4-4 shows the major types of products imported into the U.S. during 1988.

Types of Products Imported into the U.S.



Tables 4-5 through 4-5D show the volume of products, by major product category, imported into the U.S. from each eligible country in 1988.

Products Passed for Entry into the United States

Table 4-5

Country of Origin	Pounds of Fresh Meat and Edible Organs						
	Manufacturing	Beef Carcasses and Cuts	Head Meat and Tongue	Edible Organs	Manufacturing	Veal Carcasses and Cuts	Edible Organs
Argentina	0	0	0	0	0	0	0
Australia	670,639,148	118,883,075	2,327,917	43,620	5,885,074	1,635,802	1,572,831
Belgium	0	0	0	0	0	0	0
Brazil	0	0	0	0	0	0	0
Canada	79,798,851	52,012,529	2,160,491	217,917	21,070	10,339,803	1,725
Costa Rica	33,396,648	19,564,298	0	0	14,200	45,825	0
Czechoslovakia	0	0	0	0	0	0	0
Denmark	7,013,840	151,307	0	0	0	0	0
Dominican Republic	206,669,650	10,793,763	0	0	0	0	0
El Salvador	1,419,827	838,975	0	0	0	0	0
Finland	0	0	0	0	0	0	0
France	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0
Guatemala	13,780,148	8,874,592	0	0	0	0	0
Honduras	14,148,710	7,762,506	0	0	0	0	0
Hong Kong	0	0	0	0	0	0	0
Hungary	0	0	0	0	0	0	0
Iceland	0	0	0	0	0	0	0
Ireland	220,860	0	0	0	0	0	0
Israel	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0
New Zealand	427,574,467	43,427,345	874,172	5850	7,331,837	2,782,831	409,120
Poland	0	0	0	0	0	0	0
Romania	0	0	0	0	0	0	0
Sweden	1,436,058	36,804	0	0	0	0	0
Switzerland	0	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0	0
Total	1,270,098,207	262,345,797	5,362,587	320,041	13,251,981	14,804,263	1,983,676

Table 4-5A

Country of Origin	Pounds of Fresh Meat and Edible Organs					
	Mutton and Lamb			Pork		
	Manufacturing	Carcasses and Cuts	Edible Organs	Manufacturing	Carcasses and Cuts	Edible Organs
Argentina	0	0	0	0	0	0
Australia	738,902	28,565,676	24,287	105,508	2,983,818	0
Belgium	0	0	0	0	0	0
Brazil	0	0	0	0	0	0
Canada	71,816	460	0	96,612,346	390,408,752	931,370
Costa Rica	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0
Denmark	0	0	0	45,402,135	75,047,152	6,985
Dominican Republic	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0
Finland	0	0	0	1,711,476	1,957,221	0
France	0	0	0	0	0	0
Germany	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0
Hungary	0	0	0	0	0	0
Iceland	0	0	0	0	0	0
Ireland	0	0	18,920	0	0	0
Israel	0	0	0	0	0	0
Italy	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0
New Zealand	12,938	12,807,385	0	38,160	0	0
Poland	0	0	0	0	0	0
Romania	0	0	0	0	0	0
Sweden	0	0	0	2,243,668	19,248,950	0
Switzerland	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0
Total	823,656	41,373,521	43,270	146,113,293	489,645,893	938,355

Table 4-5B

Country of Origin	Cured Beef	Cured Pork	Sausage (Trichina-treated)	Cooked Beef (restricted)	Other Cooked Beef	Miscellaneous	Horsemeat
Argentina	63,000	0	0	0	38,266,545	5,063,961	0
Australia	0	468	0	0	0	2,194,896	0
Belgium	0	414,864	0	0	0	0	0
Brazil	239,400	0	0	0	6,153,569	1,252,333	0
Canada	847	32,463,215	0	0	23,521	16,237,108	0
Costa Rica	0	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0	0
Denmark	0	4,956,316	0	0	0	7,752,995	0
Dominican Republic	0	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0
France	0	0	0	0	0	2,684	0
Germany	0	97,815	0	0	0	479,567	0
Guatemala	0	0	0	0	0	0	0
Honduras	0	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0	0
Hungary	0	6,286,528	0	0	0	1,000,709	0
Iceland	0	0	0	0	0	0	0
Ireland	0	88,380	0	0	0	145,758	0
Israel	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0
Netherlands	0	381,178	0	0	0	0	0
New Zealand	19,929	0	0	0	0	82,661	0
Poland	0	337,458	0	0	0	0	0
Romania	0	389,694	0	0	0	0	0
Sweden	0	1,673,634	0	0	0	115,719	0
Switzerland	0	107,083	0	0	0	36,467	0
Uruguay	0	0	0	0	982,611	355,553	0
Yugoslavia	0	4,032	0	0	0	10,890	0
Total	323,176	47,201,365	0	0	45,426,246	34,731,301	0

Table 4-5C

Country of Origin	Pounds of Canned Meat					
	Corned Beef	Other Beef	Hams-- under 3 lbs.	Hams-- 3-6 lbs.	Hams-- over 6 lbs.	Picnic Hams
Argentina	39,033,679	10,814,804	0	0	0	0
Australia	255,971	64,800	0	0	0	0
Belgium	0	0	0	0	4,803,158	2,117,792
Brazil	47,560,826	10,367,447	0	0	0	0
Canada	0	275,197	0	30,300	0	12,434
Costa Rica	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	2,423,768	63,360
Denmark	0	0	2,927,962	783,756	90,539,626	19,735,269
Dominican Republic	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0
Finland	0	0	0	0	0	0
France	0	0	0	0	1,611	0
Germany	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0
Hungary	0	98,298	246,456	1,031,640	13,494,122	7,156,075
Iceland	0	0	0	0	0	0
Ireland	0	0	0	0	0	0
Israel	0	0	0	0	0	0
Italy	0	0	0	0	11,022	0
Netherlands	0	0	4,699,235	41,088	1,740,815	1,000,041
New Zealand	1,039,426	0	0	0	0	0
Poland	0	0	1,233,766	15,128,682	51,487,179	12,148,410
Romania	0	0	0	21,252	5,803,826	2,813,730
Sweden	0	0	0	0	0	0
Switzerland	0	0	0	0	0	0
Uruguay	1,648,434	1,081,669	0	0	0	0
Yugoslavia	0	574,569	1,245,784	0	23,077,757	2,720,661
Total	89,538,336	23,276,784	10,353,203	17,036,718	193,382,884	47,767,772

Table 4-5D

Country of Origin	Other Canned Pork	Chopped Ham Luncheon	Other Canned Meat	Poultry Pounds of Fresh Poultry	Poultry Pounds of Miscellaneous Poultry	Total Pounds Passed for Entry
Argentina	0	0	0	0	0	93,241,989
Australia	0	106,605	2,978,777	0	0	839,007,175
Belgium	0	0	30,567	0	0	7,366,381
Brazil	0	0	0	0	0	65,573,575
Canada	296,926	0	3,937,663	3,474,565	1,472,585	690,801,491
Costa Rica	0	0	0	0	0	53,020,971
Czechoslovakia	0	0	0	0	0	2,487,128
Denmark	40,794	16,741,352	0	0	0	271,099,489
Dominican Republic	0	0	0	0	0	31,463,413
El Salvador	0	0	0	0	0	2,258,802
Finland	0	3,882,110	0	0	0	7,550,807
France	0	0	486,404	0	12,512	503,911
Germany	0	0	14,019	0	0	591,401
Guatemala	0	0	0	0	0	22,654,740
Honduras	0	0	0	0	0	21,911,216
Hong Kong	0	0	0	0	932,964	932,964
Hungary	2,029,986	1,014,332	0	0	0	32,358,146
Iceland	0	0	0	0	0	18,920
Ireland	45,725	0	0	0	0	500,723
Israel	0	0	0	0	1,677,499	1,677,499
Italy	0	0	28,312	0	0	39,334
Netherlands	0	9,311,390	158,408	0	0	17,332,155
New Zealand	0	0	30,237	0	0	496,489,424
Poland	791,034	5,032,281	0	0	0	86,158,810
Romania	0	958,065	0	0	0	9,986,567
Sweden	3,402	0	13,786	0	0	24,772,021
Switzerland	0	0	0	0	0	143,550
Uruguay	0	0	0	0	0	4,068,267
Yugoslavia	0	0	16,716	0	0	27,650,409
Total	3,207,876	37,046,135	7,694,889	3,474,565	4,095,560	2,811,661,278

Tables 4-6 through 4-6D show the volume of products, by major product category, refused entry into the U.S. or condemned from each eligible country in 1988.

Table 4-6

Products Refused Entry into the United States

Country of Origin	Pounds of Fresh Meat and Edible Organs					
	Beef			Edible Organs	Veal	
	Manufacturing	Carcasses and Cuts	Head Meat and Tongue		Manufacturing	Carcasses and Cuts
Argentina	0	0	0	0	0	0
Australia	1,604,455	84,372	33,454	780	322,140	707
Belgium	0	0	0	0	0	0
Brazil	0	0	0	0	0	0
Canada	1,240,366	222,246	80,753	0	0	856
Costa Rica	167,542	185,662	0	0	1,501	2,552
Czechoslovakia	0	0	0	0	0	0
Denmark	131,460	12,002	0	0	0	0
Dominican Republic	372,029	217,427	0	0	0	0
El Salvador	0	0	0	0	0	0
Finland	0	0	0	0	0	0
France	0	0	0	0	0	0
Germany	0	0	0	0	0	0
Guatemala	195,934	215,324	0	0	0	0
Honduras	98,981	150,011	0	0	0	0
Hong Kong	0	0	0	0	0	0
Hungary	0	0	0	0	0	0
Iceland	0	0	0	0	0	0
Ireland	88,440	0	0	0	0	0
Israel	0	0	0	0	0	0
Italy	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0
New Zealand	616,483	57,584	60	0	39,840	8,064
Poland	0	0	0	0	0	0
Romania	0	0	0	0	0	0
Sweden	15,960	1,003	0	0	0	0
Switzerland	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0
Total	4,531,650	1,145,631	114,267	780	363,481	12,179

Table 4-6A

Country of Origin	Pounds of Fresh Meat and Edible Organs					
	Mutton and Lamb			Pork		
	Manufacturing	Carcasses and Cuts	Edible Organs	Manufacturing	Carcasses and Cuts	Edible Organs
Argentina	0	0	0	0	0	0
Australia	0	159,740	269	0	2,655	0
Belgium	0	0	0	0	0	0
Brazil	0	0	0	0	0	0
Canada	0	0	0	878,958	729,806	90
Costa Rica	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0
Denmark	0	0	0	461,627	507,137	0
Dominican Republic	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0
Finland	0	0	0	1,260	53	0
France	0	0	0	0	0	0
Germany	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0
Hungary	0	0	0	0	0	0
Iceland	0	0	0	0	0	0
Ireland	0	0	17,462	0	0	0
Israel	0	0	0	0	0	0
Italy	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0
New Zealand	0	26,825	0	0	0	0
Poland	0	0	0	0	0	0
Romania	0	0	0	0	0	0
Sweden	0	0	0	2,511	137,584	0
Switzerland	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0
Total	0	186,565	17,731	1,344,356	1,377,235	90

Table 4-6B

Country of Origin	Cured Beef	Cured Pork	Sausage (Trichina-treated)	Cooked Beef (restricted)	Other Cooked Beef	Miscellaneous	Horsemeat
Argentina	0	0	0	0	172,880	14,238	0
Australia	0	432	0	0	0	321,512	0
Belgium	0	0	0	0	0	0	0
Brazil	0	0	0	0	881	112	0
Canada	85	65,006	0	0	245	56,126	0
Costa Rica	0	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0	0
Denmark	0	96	0	0	0	75,427	0
Dominican Republic	0	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0
France	0	0	0	0	0	0	0
Germany	0	0	0	0	0	216	0
Guatemala	0	0	0	0	0	0	0
Honduras	0	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0	0
Hungary	0	0	0	0	0	83	0
Iceland	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0
Israel	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0
New Zealand	11,227	0	0	0	0	2,114	0
Poland	0	0	0	0	0	0	0
Romania	0	0	0	0	0	0	0
Sweden	0	0	0	0	0	190	0
Switzerland	0	0	0	0	0	0	0
Uruguay	0	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0	0
Total	11,312	65,534	0	0	174,006	470,018	0

Table 4-6C

Pounds of Canned Meat						
Country of Origin	Corned Beef	Other Beef	Hams-- under 3 lbs.	Hams-- 3-6 lbs.	Hams-- over 6 lbs.	Picnic Hams
Argentina	95,591	21,386	0	0	0	0
Australia	11,916	0	0	0	0	0
Belgium	0	0	0	0	321	142
Brazil	606,834	4,422	0	0	0	0
Canada	0	0	0	0	0	0
Costa Rica	0	0	0	0	0	0
Czechoslovakia	0	0	0	0	0	0
Denmark	0	0	17,914	19,008	267,368	255,978
Dominican Republic	0	0	0	0	0	0
El Salvador	0	0	0	0	0	0
Finland	0	0	0	0	0	0
France	0	0	0	0	0	0
Germany	0	0	0	0	0	0
Guatemala	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Hong Kong	0	0	0	0	0	0
Hungary	0	32,742	0	0	0	0
Iceland	0	0	0	0	0	0
Ireland	0	0	0	0	0	0
Israel	0	0	0	0	0	0
Italy	0	0	0	0	0	0
Netherlands	0	0	609	0	0	0
New Zealand	3,841	0	0	0	0	0
Poland	0	0	0	98,088	248,972	0
Romania	0	0	0	0	94,374	0
Sweden	0	0	0	0	0	0
Switzerland	0	0	0	0	0	0
Uruguay	540	1,613	0	0	0	0
Yugoslavia	0	0	90,906	0	27,881	14
Total	718,722	60,163	109,429	117,096	638,916	256,134

Table 4-6D

Country of Origin	Other Canned Pork	Chopped Ham Luncheon	Other Canned Meat	Pounds of Fresh Poultry	Poultry Pounds of Miscellaneous Poultry	Total Pounds Passed for Entry
Argentina	0	0	0	0	0	304,095
Australia	0	39	44,376	0	0	2,586,872
Belgium	0	0	0	0	0	463
Brazil	0	0	0	0	0	612,249
Canada	0	0	15	1,443	114,099	3,390,094
Costa Rica	0	0	0	0	0	357,257
Czechoslovakia	0	0	0	0	0	0
Denmark	0	90,106	0	0	0	1,838,123
Dominican Republic	0	0	0	0	0	589,456
El Salvador	0	0	0	0	0	0
Finland	0	7,690	0	0	0	9,003
France	0	0	1,600	0	0	1,600
Germany	0	0	0	0	0	216
Guatemala	0	0	0	0	0	411,258
Honduras	0	0	0	0	0	248,992
Hong Kong	0	0	0	0	7,482	7,482
Hungary	77,406	0	0	0	0	110,231
Iceland	0	0	0	0	0	17,462
Ireland	0	0	0	0	0	88,440
Israel	0	0	0	0	1,150	1,150
Italy	0	0	0	0	0	0
Netherlands	0	77,528	291	0	0	78,428
New Zealand	0	0	0	0	0	766,038
Poland	0	0	0	0	0	347,060
Romania	0	1,428	0	0	0	95,802
Sweden	0	0	0	0	0	157,248
Switzerland	0	0	0	0	0	0
Uruguay	0	0	0	0	0	2,153
Yugoslavia	0	0	0	0	0	118,801
Total	77,406	176,791	46,282	1,443	122,731	12,139,973

Table 4-7

Table 4-7 shows the reasons for rejecting meat and poultry imports during inspection and the number of pounds rejected for each reason during 1988.

Reasons for Product Rejection

Reason for Rejection	Total Weight of Lots Rejected	Pounds Rejected	Number of Rejected Lots
Contamination	1,732,562	1,609,947	112
Processing Defects	2,202,027	2,123,847	94
Unsound Condition	2,902,755	2,734,589	124
Violative Net Weight	58,871	58,838	17
Pathological Defects	440,726	440,726	18
Transportation Damage	101,319,486	1,639,670	3,387
Labeling Defects	1,180,767	412,207	80
Missing Shipping Marks	24,858,896	1,149,539	1,014
Composition/Standard	962,619	962,099	50
APHIS Vet. Svcs. Requirements	78,191	119	2
Residues	52,860	52,860	2
Miscellaneous	661,349	179,256	32
Container Condition	3,298,177	973,939	107

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